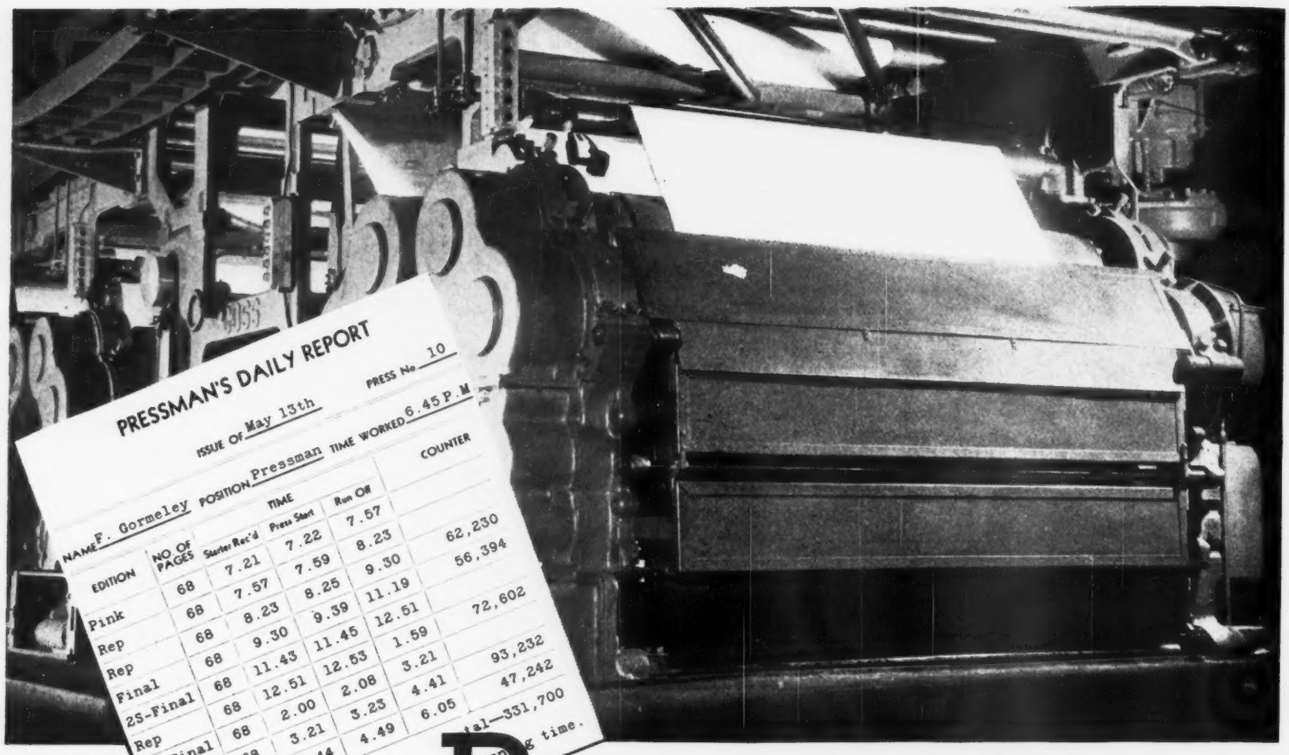
PRINTING EQUIPMENT ENGINEER

MAY • 1935

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELDS


PRESSMAN'S DAILY REPORT
ISSUE OF May 13th
PRESS No. 10
NAME F. Gormeley POSITION Pressman TIME WORKED 6.45 P.M.
EDITION | NO OF PAGES | TIME Starter Rec'd | Press Start | Run Off | COUNTER
Pink | 68 | 7.21 | 7.22 | 7.57 | 62,230
Rep | 68 | 7.57 | 7.59 | 8.23 | 56,394
Rep | 68 | 8.23 | 8.25 | 9.30 | 72,602
Final | 68 | 9.30 | 9.39 | 11.19 | 93,232
2S-Final | 68 | 11.43 | 11.45 | 12.51 | 47,242
Rep | 68 | 12.51 | 12.53 | 1.59 | —
3S-Final | 68 | 2.00 | 2.08 | 3.21 | —
Rep | 68 | 3.21 | 4.41 | 4.49 | —
Extra | 68 | 4.44 | 3.23 | 6.05 | —
No lunch.
34,140 Average per hour actual running time.
Total—331,700

PRODUCTION RECORDS . . . .

THAT LOOK GOOD ON THE DAILY REPORT

"107,998 52-page papers in 3 hours 19 minutes" . . . "59,321 48-page papers in 1 hour 41 minutes" . . . "33,148 72-page and 90,931 52-page papers in 4 hours 2 minutes" . . . "45,162 papers per hour with only one web break" . . . "215,000 salable copies without a single web break."

These authentic reports are typical of the day-by-day production records being turned in wherever the Goss High Speed Anti-Friction Press is on the job.

No wonder this press is winning the acclaim of owners and operators everywhere. With dynamic balance in all rotating parts and with a massive construction that absorbs all strain, it will easily attain 416 cylinder r. p. m. with practically no vibration.

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STA-HI

FROM THE TIMES, JOURNAL-AMERICAN AND MIRROR OF NEW YORK TO THE TRIBUNE OF GREAT FALLS, MONTANA—ON BIG CITY DAILIES AND PROGRESSIVE SMALLER PAPERS—STEREOTYPE ROUTINE HAS BEEN PUT ON A SCIENTIFIC BASIS WITH THE AMAZING STAHI

AUTOFORMER

BECAUSE REGARDLESS OF THE SIZE OF THE PLANT IN WHICH IT IS INSTALLED, THIS AUTOMATIC FORMING AND DRYING MACHINE SAVES TIME, MONEY AND 'GRIEF' IN STEREOTYPE AND PRESS ROOMS—PRODUCES A PRINTED NEWSPAPER THAT COMES VERY CLOSE TO BEING PERFECT

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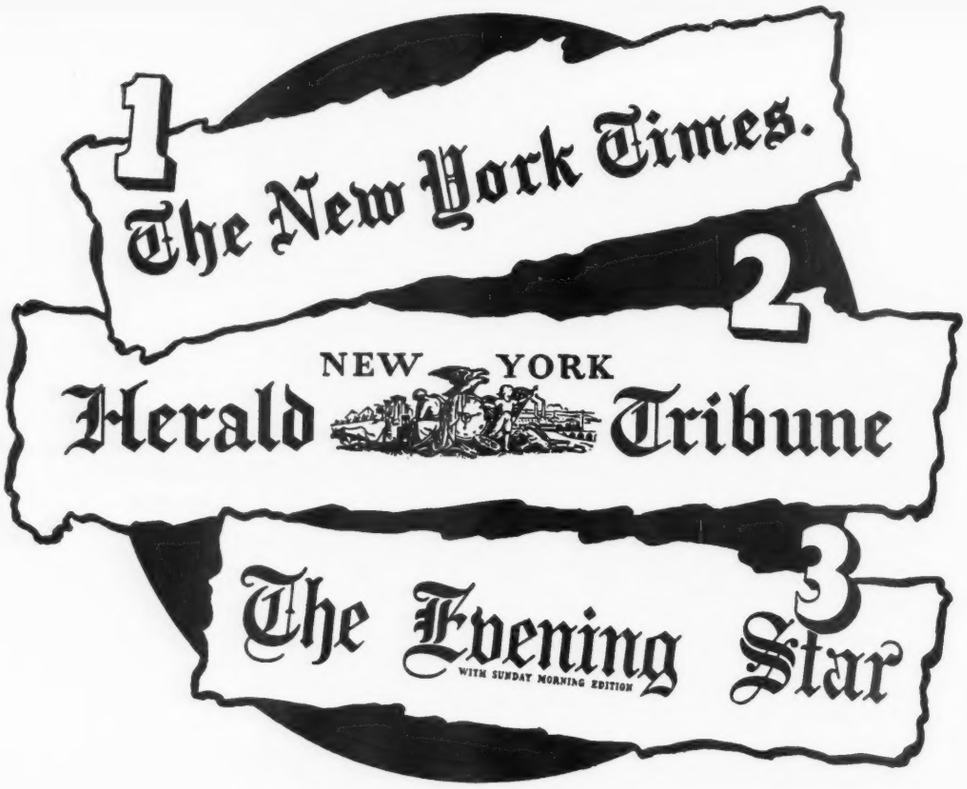

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for Goodyear-equipped newspapers in 1935 Francis Wayland Ayer Awards

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FOR MAY 1935
VOLUME 50 Number 2

Printing EQUIPMENT Engineer

Trade-Mark Registered

Published by Don Will
Edited by Mac Sinclair

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Fields.

Established 1910

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Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use in your plant.

Place a check mark in each square for attention of the department head or assistant whom you wish to look over special articles in this issue.

- ☐ *Production Manager*
- ☐ *Mechanical Superintendent*
- ☐ *Composing Room Superintendent*
- ☐ *Chief Composing Room Machinist*
- ☐ *Monotype Department*
- ☐ *Photo Engraving Department*
- ☐ *Foreman Lithographing Department*
- ☐ *Superintendent Stereotype Foundry*
- ☐ *Superintendent Electrotype Department*
- ☐ *Superintendent Press Room*
- ☐ *Bindery Foreman*
- ☐ *Manager*
- ☐ *Purchasing Agent*

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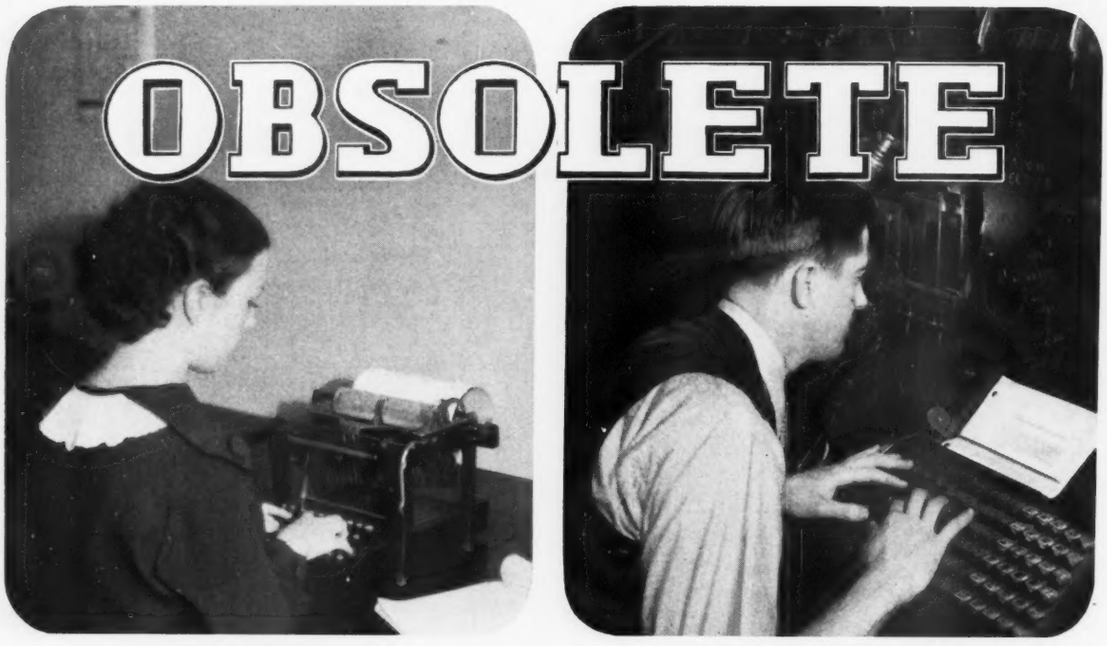

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Years ago, typewriting was non-visible. The typist could not see the words being written and, of course, made many errors. Imagine trying to use such machines today!

We guarantee,

in writing, that the Black & White process will save 25% of all errors in original machine composition, and the service is available on a basis such that this saving can be proved before any service charge is payable. Write to us now—while you have it in mind. You will save money by doing so.

Yet practically the same condition exists today in line composing machine operation. The operator cannot readily see the line which he is composing, because the reference characters on the matrices are hard to read. As a result, errors in machine composition are not detected until proofs are read.

This procedure of making and correcting needless errors is very costly, just as non-visible typewriting would be costly. The remedy is to make machine composition ***visible***—by means of the Black & White process. In this way 33% of all errors can be eliminated.

Figure out the cost per year of operating your line composing machines. Then figure 4% of that total. There you have the approximate amount of money that you can save by using Black & White service. Then, in addition, you get a large saving in the time of proof-readers, floor men, and others. You also get 33% fewer errors in late news composition which cannot be proofread . . . Not to mention the elimination of eyestrain and hence more production from your operators.

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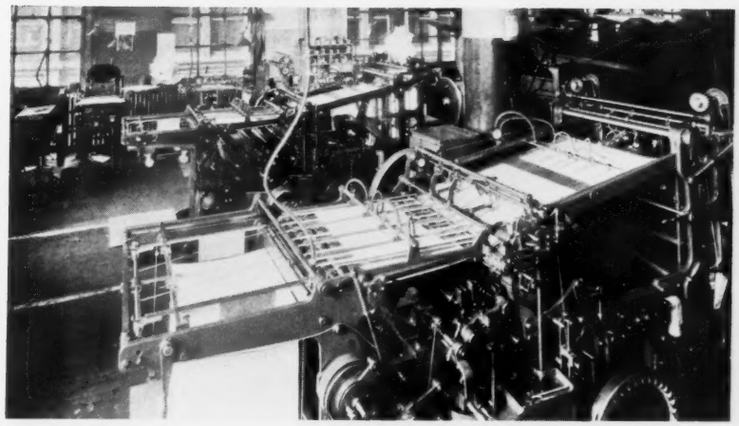
EMPIRE STATE BUILDING • NEW YORK

SOLE LICENSEES OF THE PERCY L. HILL MATRIX CONTRAST PATENTS Nos. 1,466,437 and 1,796,023

To Invite 1935 Meet

Headed by Roy L. Brewer, the Twin City (Minneapolis-St. Paul) delegation of Printing House Craftsmen will extend an invitation at the Cincinnati conference in August to hold the 1936 International Association of Printing House Craftsmen Convention in Minneapolis.



Sectional view of pressroom in the printing plant of McIlroy & Smith, 22 Thames St., New York, New York. Owing to a moderization plan adopted some months ago, all outmoded equipment is in the process of being replaced by new and faster machinery.

Modernization

Brings New Life and New Customers to Printing Plant

By JULIUS BAJAN*

THE history of our firm and our struggles against economic conditions may not be without parallel, but we think they are unique, just the same. Before we go into details about our modernization program, the reasons that prompted us in our decision and the benefits we expect to derive from it, we would like to give a brief description of our firm.

McIlroy & Smith, Inc., has been established for over 53 years, and has always been known as a medium-sized plant. The owners never believed in expansion to the point which would eliminate personal supervision. This firm was known as one of the most progressive a half-century ago. It was one of the first to install Monotype typesetting machines in the days when steam was used for driving presses and other printing machinery. These circumstances placed McIlroy & Smith in the fortunate position of having its customers seek the company's services instead of being compelled to go out after business.

This condition enabled the owners to pick from a selected list only those customers whose work best fitted into the plant and kept it engaged steadily. Just how accurate this judgment was in picking customers is shown by the fact that the firm never hired nor had to have a salesman until quite recently.

The first break occurred at the time of the death of Mr. Smith about ten years ago, when the plant was turned over to the employees. Even then it was making money every year, running on its own momentum, until a few years after the depression. Then the executive personnel floundered around for a few years, using some of the surplus money which had been accumulated in the past.

About nine months ago, on the initiative of Mrs. Anita G. Smith, who until that time took no active part in the man-
It took us nine months to come to a decision, not for business agement of the business, we began analyzing the situation. reasons alone, but for sentimental reasons as well. As opposed to general belief, we found that business and sentiment do mix if mixed judiciously.

But, here's what we found, after many deliberations reaching far into the night at the end of the day's work.

All our old customers as well as other buyers of printing had already adjusted themselves to present-day economic conditions, which meant that most of them required less printing, some the same amount, others more, but they all wanted it produced more economically and speedily. In other words, most of the business today is on a competitive basis.

Our plant consisted of four cylinders, several job presses,

*General Manager, McIlroy & Smith, Inc., New York, New York.

The Modern Plant

Recently we have heard about plant modernization in many lines of industry, including the need for some such activity in the printing field. Practical examples as to how this is to be accomplished and the reasons for modernization have filtered through the press from time to time. Here is an account by the general manager which prompted a long-established printing firm "to go modern." Mr. Bajan states that so far his firm has installed, among other pieces of equipment, three rapid presses. He also states that cash is paid for all new equipment and the executive personnel is deliberate in selecting that which fits best into the plant. Some of the old presses and other machines which have outlived their profit-producing possibilities are being broken up on the floor of the plant and no attempt is being made to sell them.

The Small Offset Press

Is It Here to Stay, Or Is It Just Passing Fancy?

By ADAM HENRY RIESER

"CUTTING Costs Is Good Management" is struck off in bold characters with red ink across an advertising piece sent out by the manufacturer of a small offset press. The press made by that concern is intended in the main for use in business offices for printing stationery, advertising and other printed matter. Undoubtedly letterpress as well as lithographic houses will feel the effects should machines of that type become installed in sufficient numbers.

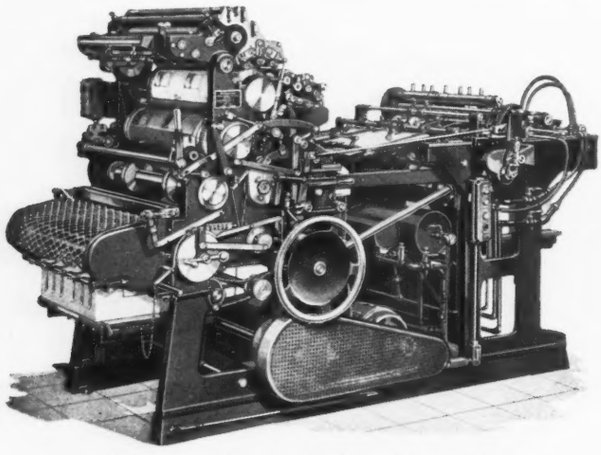
In addition to the above machine there is another source of concern to the larger printing shops, whether letterpress or lithographic. Small offset press production units made by such precision press builders as Harris, Rutherford, Webendorfer and others, promise lively competition. That much of the letterpress work of the past will be produced lithographically in the future on these small presses seems to be a foregone conclusion. In addition, it is conceivable that quite a lot of the lithographic work now executed on the larger machines will swing to the smaller machines. It has been stated rather forcibly that the trend in printing today in both the relief and offset fields is away from the larger machines, where the work size permits. This statement was made with the knowledge that only recently three four-color Harris presses of a large size have been installed in New York state alone.

three Monotype casters and keyboards, composing room and other equipment. Not getting enough work from old customers to keep this equipment busy, we tried to get new business to fit into our plant but without much success. We advertised, used salesmen, the influences of our old customers and friends—in fact, every known method capable of producing results, except price-cutting.

We also found (contrary to a recent article in a trade journal) that important buyers of printing do care what the mechanical facilities of the plant are, for in the past nine months we have had no less than ten production men (buyers) inspect our plant and only one found it sufficiently well equipped for his company's needs.

While there's work still to be done on our old presses, we found all our contacts developed in another direction and, besides, one can't wait and pick the jobs today. You have to accept what you can get.

After taking these factors into consideration there were only two things to be done—either close the plant or *follow the example of our customers and buyers of printing and adjust ourselves to conditions as they are today.* We have



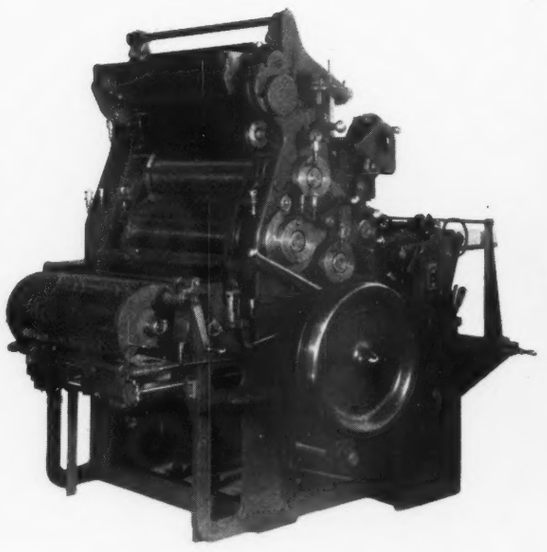
Rutherford 19 in. by 25 in. High-Speed Offset Job Press

decided not to stop at the half-way mark, but expect to go 100% modern.

We are changing all our presses for smaller and faster two-color presses. We are replacing our composing room furniture and racks and are adding a material-making machine. While we had no bindery equipment before, we are installing a small folding machine.

All this equipment will fit into half of the floor space we occupy now. Our new lease started May first, and accordingly we have taken half of the floor space at a saving of 60% in rent. The capacity of our plant will be increased by about 50% and the operating costs will be reduced by 33%. Our chances of getting new business have increased a hundred fold, for we found that being in business for over a half-century is not enough of a selling argument. Some may think cobwebs and moss have been collected in all those years.

However, it is our belief that with a half-century's experience and business judgment back of us, plus the added advantage that we now have modern equipment and use modern business methods, we certainly will create more confidence in our prospects and clients than we could by any other means.

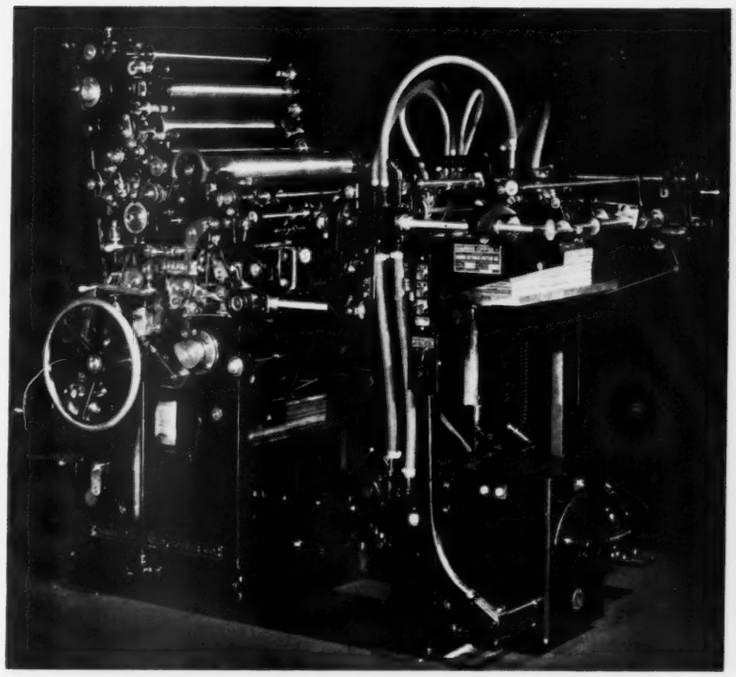


This is the Miehle No. 24 Offset Printing Press. Maximum sheet size is 18 in. by 23 in. It is expected that this press will be furnished as a single-color press or as a unit-construction multi-color press.

SMALL-PRESS MOVEMENT GROWTH

Some years ago on a visit to Cleveland, we were permitted, through the kindness of Messrs. Harris and Chris. Nelson, to view the first large, four-color Harris offset press. On that same Cleveland visit, we were introduced to Mr. Schultz, damping and roller cleaning device inventor, who was then building a small offset press. Probably he was the first constructor of small offset presses in this country. At that time we questioned the wisdom of such a move, contending the demand and utility was not present for such a small machine. Both Messrs. Schultz and Nelson spent considerable time attempting to convince us of the future of the small-press movement. Today, manufacturers are turning out those small units in large numbers.

Yes, the small offset press from the 8½ by 11 in. size to the 17 in. by 22 in. size with sheet-fed as well as web (roll) principle, combined with the gathering momentum of the offset movement, has led to numerous installations and attracted considerable attention. Much of the letterpress turnover to offset is in that small-press field. But the small press sales have not been to letterpress printers alone. Some lithographers, too, have adopted this means of printing.



View of 17 in. by 22 in. Harris-Seybold-Potter Offset Printing Press.

There is no doubt of an existing tenseness in the printing field. Letterpress, as well as lithography, is in the position of the crouched cat or frog ready to spring. Both groups—not the cat or frog, but type and offset—are keenly observing the small-press movement. They are wonder whether "diminishing returns" has set in because of too much large-machine expansion. They wonder if the old-line argument of small production costs with consequent small sales price through large combination sheet runs having many units up on a large sheet still exists. Or does it fail to operate under present conditions?

FACTORS IN GROWTH

Why is this small-press demand so great? Here are some reasons advanced by a press builder:

(1) Lower operating cost through economy of floor space; (2) Waste of paper, ink and other materials is held to the minimum; (3) Simplicity of the press permits of speedy plate changing, makeready and operation, making it suitable for short runs, and (4) Folding, perforating, numbering and cutting devices attached to the press turn out a finished product in one operation.

An interesting factor in the color field is the web press, printing from roll developed by an eastern manufacturer. These small presses print three-color or four-color work at one operation, delivering the product rewound to roll or folded and cut to flat sheets as desired. One web press developed is capable of printing two colors on one side and one color on the reverse, folding and cutting at the rate of 24,000 sheets per hour. A production job we saw printed three colors on one side, including an all-over brown solid, was run from web and rewound to roll for shipment. This is especially interesting when it is known that no set-off occurred despite the absence of any drying equipment.

Undoubtedly there is a field for the small offset presses, whether sheet-fed or roll-fed, just as there is for the larger machine. The place in the picture will be decided by coming events. As it stands now, the web presses are capable of sustained speeds, spoken of only in whispers before in connection with the larger machines. The fact remains that offset is encroaching the type field.

THEIR PLACE IN LITHOGRAPHY

Perhaps in lithography small presses will eventually occupy the same place that the job presses hold in letterpress. Maybe lithography will adopt them with the same characteristic swiftness exhibited when it invaded the four-color field, once it had decided where to jump. Obviously, the lithographic field with its knowledge of chemical printing will get the maximum results from any offset press. A background of lithographic habits is highly desirable so that paper and plate troubles will remain at a minimum. Mechanical difficulties then arising will not in turn create other troubles when the plate and paper end is known.

Lithographic printing with its chemical nature is used on these machines. This form of printing is entirely different from type or relief printing. In lithographic offset printing, moisture in some form is used to keep the non-printing areas clean of ink. This is true even of the so-called "dry-offset" printing. Remember, there are three forms of offset printing: Relief or raised (called high-etch) which really is printed dry; Planographic, where the image or work is on the surface of a plate or stone, and Intaglio or deep-etch where the work is sunk below the surface of the metal. The last two are run wet or with a water motion, mentioned above.

To more thoroughly acquaint the reader with offset lithography, our next few articles will go more deeply into the principles of lithographic printing.

New Address For Printing Equipment Engineer

Publication offices for *Printing* EQUIPMENT *Engineer* are now located at 1276 West Third St., Cleveland, Ohio. Please send all mail to the new location.

Replies

To "A.C. vs. D.C." Article On Printing Press Drives

By A. J. CLINE*

Editor, *Printing* EQUIPMENT *Engineer:*—In your issue of March, 1935, you have printed an article under the caption "A.C. vs. D.C.," by Mr. Blankenbiller, purporting to be for the consideration of practical newspaper men, in which he states certain conclusions that we feel should not go unchallenged, particularly in view of your editorial note inserted in a box on the first page of the article which seems to indicate that he has said the last word in the so-called "controversy." The writer believes we would have let the article pass as sufficiently indefinite and self-incriminating insofar as alternating current for driving modern high-speed presses is concerned, had it not been for your editorial comments and also the seeming strain throughout his article that dishonest statements about apparatus had been resorted to. It seems to me a poor way to try to bolster up an argument for alternating current drives for high-speed presses.

Now, the writer is going to agree with a number of statements in the article. In the first paragraph it is pointed out that it is necessary to have had experience with both types of equipments, and it is clearly indicated that the problem is not one that can be based entirely on engineering calculations. In other words, there are variables both in the apparatus and in the human element operating it, all of which are important.

We Appreciate This Mr. Griner

Youngstown, O., March 14, 1935.

Printing EQUIPMENT *Engineer,*

Cleveland, Ohio.

Gentlemen: In my opinion, *Printing* EQUIPMENT *Engineer* is the most interesting and newsy technical magazine relative to the printing industry that comes to my attention. With best wishes for your continued success, I remain

Sincerely yours,

L. J. GRINER.

In the second paragraph it is pointed out that alternating current supply in large cities is superseding direct current, and direct current will be a thing of the past insofar as the power company supply is concerned. There is no question about the power companies making this change as local conditions permit.

In the same paragraph it says "where d.c. power is available at a comparable rate with a.c., with assurance of continued availability, d.c. press drives should be used. . . ." From that point on, the article seems to try to prove that any press can be operated as well with alternating current as it can with direct current. If so, why the statement quoted above?

The Cline Electric Mfg. Company has furnished over 25,000 h.p. in alternating current drives for various types of newspaper presses in a large number of plants and, of course, we have furnished a large amount of direct current equipment. We have no reason to favor either type of equipment and our recommendations for one type or the other have been based entirely upon the plant requirements in considering the type of presses that were to be equipped in the plant. In making our analysis we first disregard whether the customer has available from the power company alternating or direct current, as we consider the press performance the prime consideration and the difference in the cost of power consumption a very minor consideration. The cost of apparatus and installation of the same is the next consideration, but we do not let that interfere with our recommendations as to the kind of apparatus that will best operate the press so that it may produce printed copies as fast as the press itself is capable of operating, regardless of first cost of apparatus, or cost of power. In considering the apparatus, of course, safety to employees, their convenience of handling the press, which includes the precision with which the press may be operated, is not overlooked.

An important consideration in our analysis of the press equipment necessarily is the makeup of the press and possible future use to which the press may be put. In the old days where slow-speed decker-type presses were considered we had less press circuit combination to consider, for the number of pages did not vary from day to day or edition to edition as they do at present. A modern unit type press may be set up in a number of combinations in one day and the load on the motor drive changes according to the number of units in combination with a folder which are driven by one motor.

Now, fundamentally, the difference the press user is interested in as between the alternating and direct current equipment is that the alternating current motor speed varies with the load it is driving unless it is running at its highest speed. In other words, any speed below the maximum will vary with the load imposed on the motor. Another inherent characteristic of the alternating current motor drive is that the speed range of the main driving motor is regulated by inserting resistance in the power circuit to dissipate part of the energy in heat when the speed is lower than maximum. This choking effect on the speed can only be constant with one particular load, and the reduction from maximum speed cannot be with full load of the motor more than about 60%. The condition may be doctored a little by regulating switches to insert more or less resistance, but it is variable and that is the reason the alternating current motors are not suitable for a modern high-speed press.

The direct current motor that would be used on this type of press has an economical range of speed adjustment, regardless of load, of from one-fourth of its maximum speed to full speed, and a further uneconomical range comparable to the alternating current resistance choking method, to 60% below one-fourth speed, at which point it is quite close to the speed of the small motor used for make-ready purposes.

The above statements of inherent characteristics of the two types of motors are borne out by Mr. Blankenbiller's statement in the last paragraph on the second page (page 14) and the succeeding paragraphs of his article, wherein he states he "definitely recommended the use of d.c. equipment earlier in his article where d.c. could be secured at a comparable rate with a.c.," and "comparing a.c. drives with d.c. drives *and its conversion apparatus,* it is an established fact that the a.c. drive is more economical to operate than the d.c. drive from 65% speed up to maximum." In other words, he says a press

Continued on page 34

*President, Cline Electric & Manufacturing Company, Chicago, Ill.

RULED FORMS ON THE

TRADE LINOTYPE MARK

SLUGS OPENED UP

TO SHOW METHOD OF SETTING

SOLD TO_____

NO.	QUANTITY	SIZE	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

NOTE how easy it is to set work of this character with the Ruled Form matrices. No extra attachments are needed. Any operator can do it.

Easy to set Ruled Forms on the Linotype

RULED FORMS ON THE

TRADE LINOTYPE MARK

SLUGS CLOSED UP

READY FOR PRINTING

29 Ryerson St., Brooklyn, N. Y._____

SOLD TO_____ADDRESS_____

NO.	QUANTITY	SIZE	DESCRIPTION	UNIT	TOTAL
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

NOTE how evenly the down rules line up when the slugs are put together.

MERGENTHALER LINOTYPE CO., BROOKLYN, N. Y.

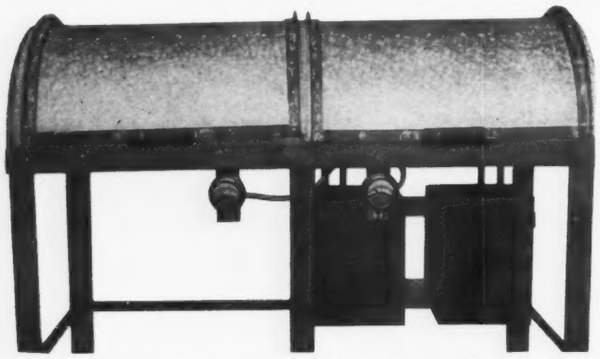


Fig. 1.—Installation of stereotype electrically-heated mat scorchers with individual Pyrometers for automatically indicating the temperature of the scorching surfaces. In this way the stereotyper has a direct check on his scorcher temperature so that it will be suitable at all times for the removal of moisture from mats.

Pyrometers

And Uses in the Printing Industry

By M. D. PUGH*

ALTHOUGH the importance of proper metal temperature in the printing plant is fairly well recognized, there are still too many plants without proper means for determining accurate metal temperatures quickly. There are even some plants where the pine stick or paper method of telling metal temperatures is still in use.

Instruments for automatically controlling the temperature of molten metal are used by the larger printing plants. When these instruments are operating satisfactorily nothing is dependent upon the human element except to see that the control is set for the proper temperature. However, instruments which indicate the temperature only are quite popular in the medium and smaller size plants, due to the much lower price.

Two general types of instruments are commonly used in the printing industry:

1. Expansion—Stem type, dial type.
2. Thermo-electric.

*Sales Manager, Illinois Testing Laboratories, Inc., Chicago, Ill.

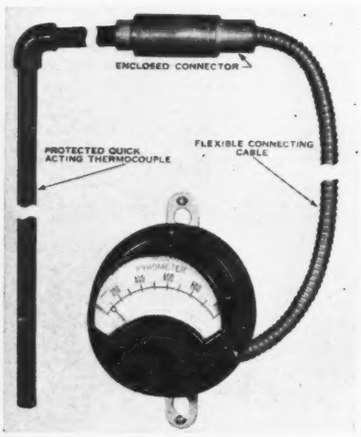


Fig. 2.—Wall type Pyrometer with flexible cable which permits easy attachment of the thermo-couple to the metal pot of a Linotype or Intertype, as well as stereotype, electrotype or remelting pots. The flexible cable allows for movement of the pot in case it is movable in operation.

The stem type is the common mercury thermometer with a metal shield for mechanical protection.

The dial type is furnished in two classes: (1) Gas-filled type, (2) Mercury type. Both consist of a bulb and tubing attached to the indicator. The bulb and tubing of these instruments is filled with a gas or mercury which expands or contracts as the bulb is heated or cooled. This expansion or contraction actuates the movement. The dial type can be obtained in either the straight indicator type or the indicating controller type. Some types of controls have no indicators but are fitted with an adjustable knob for setting the control point.

The thermo-electric type instrument, known as a pyrometer, can be obtained in either the controlling or the straight indicating models.

The thermo-electric pyrometer operates on the well-known thermo-electric principle. Unlike the mercury or gas-filled instrument, the heat responsive element of the pyrometer consists of two solid wires of dissimilar metals welded together at one end. This element, known as a thermo-couple, generates an electro-motive force which can be measured in millivolts. The millivoltage generated is in direct proportion to the temperature. The scale of the pyrometer is graduated in temperature units and consequently it is direct reading.

For mechanical protection of the thermo-couple wires, a suitable tube or shield should be used to cover the thermo-couple wires. This shield or protection tube can be plain or wrought iron, either straight or angle type. The thermo-couple wires, when encased in a protection tube, are insulated with porcelain beads to prevent shorting of the wires on the protection tube.

PORTABLE PYROMETER

When used with a portable pyrometer where the readings are of short duration and intermittent, the thermo-couple wires need no protection whatever. The bare wires are inserted directly into the molten metal to a depth of 2 or 3 in. In this way almost instant temperature readings are obtained.

With the portable pyrometer these thermo-couple wires can be attached directly to the instrument case terminals.

The portable pyrometer, because it responds to temperature quicker than the mercury stem type thermometer, will quickly pay for itself in time saved. Its accuracy cannot be impaired by overheating. The pyrometer is easy to read. It has a dial and pointer which can be read even more easily than a clock.

The portable pyrometer provides a quick, easy means for checking and setting the thermostats on composing machine and strip caster metal pots. When replacing, cleaning, or repairing metal pot crucible thermostats, considerable time can be saved in resetting them through the use of a portable pyrometer.

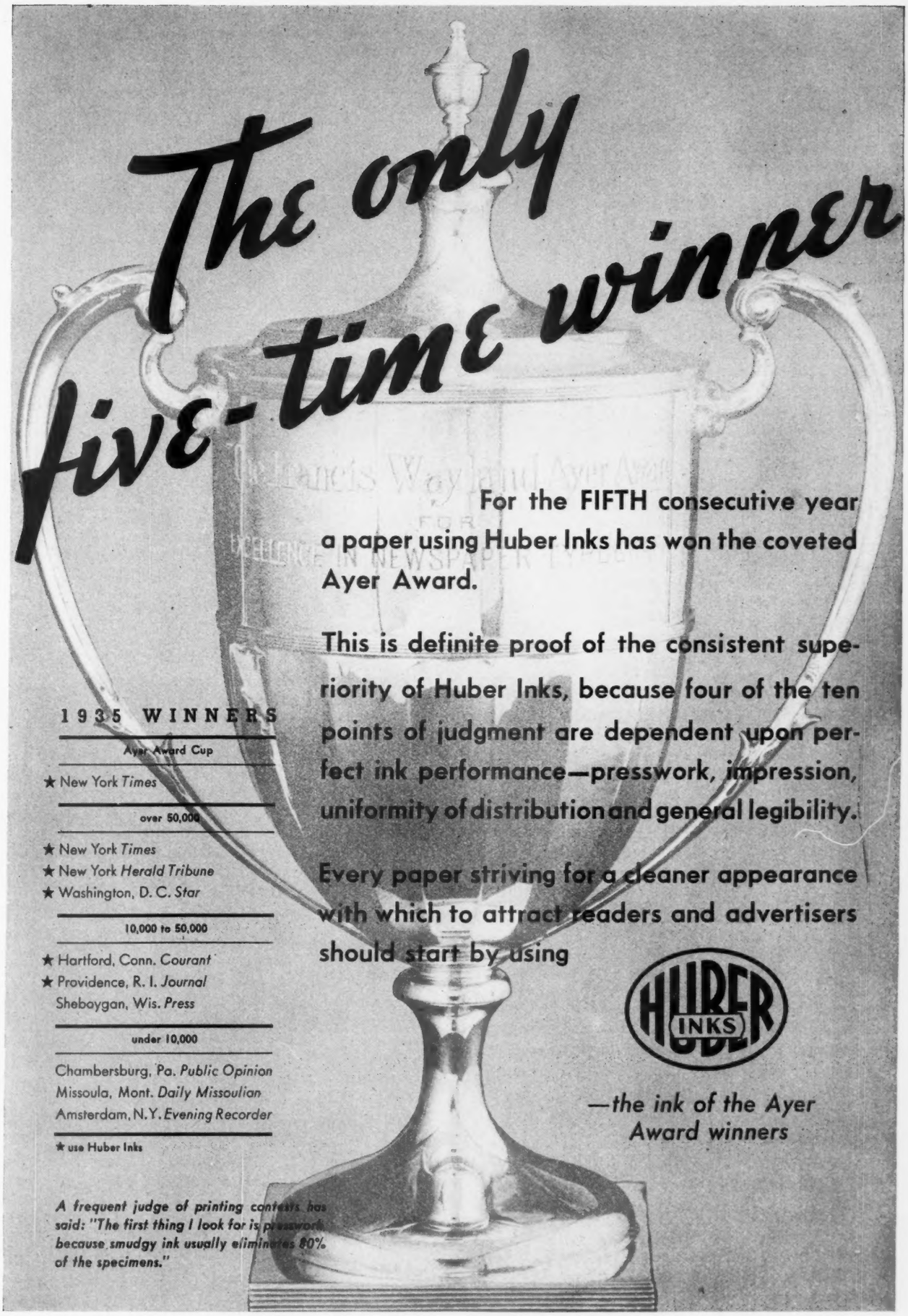
WALL-TYPE PYROMETER

With the permanently installed type, the thermo-couple is connected to the pyrometer by a pair of connecting wires furnished with the instrument. This connecting wire, generally of the duplex type, is insulated, but for greater protection some types of pyrometers have these connecting wires covered with flexible metal cable. See Fig. 2.

The indicator of the wall or permanently mounted pyrometer can be placed on any convenient part of the Monotype, Linotype or Intertype machine or on a post or wall near the stereotype, electrotype, or remelting pot where the operator can read it easily and distinctly from a distance.

Continued on page 14

The only five-time winner



For the FIFTH consecutive year a paper using Huber Inks has won the coveted Ayer Award.

This is definite proof of the consistent superiority of Huber Inks, because four of the ten points of judgment are dependent upon perfect ink performance—presswork, impression, uniformity of distribution and general legibility.

Every paper striving for a cleaner appearance with which to attract readers and advertisers should start by using

HUBER INKS

—the ink of the Ayer Award winners

1935 WINNERS

Ayer Award Cup

★ New York *Times*

over 50,000

★ New York *Times*
★ New York *Herald Tribune*
★ Washington, D. C. *Star*

10,000 to 50,000

★ Hartford, Conn. *Courant*
★ Providence, R. I. *Journal*
Sheboygan, Wis. *Press*

under 10,000

Chambersburg, Pa. *Public Opinion*
Missoula, Mont. *Daily Missoulian*
Amsterdam, N.Y. *Evening Recorder*

★ use Huber Inks

A frequent judge of printing contests has said: "The first thing I look for is presswork because smudgy ink usually eliminates 80% of the specimens."

CLASSIFICATION FOR PYROMETER PURPOSES

For pyrometer purposes printing plant operations can be divided into five main classes:

(1) Typesetting.
(2) Mat Roasting.
(3) Stereotyping.
(4) Electrotyping.
(5) Remelting.

PYROMETERS FOR LINOTYPE AND INTERTYPE MACHINES

All modern typesetting machines and many of the older ones have devices for controlling the metal temperatures automatically but do not have any means by which the machinist or operator may know what the temperature is.

Different sizes of type when set in any quantity, require different metal temperatures, and when the control setting is changed the operator may not know whether the setting is correct. Furthermore, the vibration or jar of the machine may gradually change the control setting, hence, the temperature should be checked frequently. Unless this is done, there is no way of knowing whether the temperature is uniformly too hot or too cold except by results produced and this may mean spoiled work and lost time.

Mercury thermometer coils were formerly used exclusively for regulating the metal temperatures of Linotype machines. At the present time both Linotype and Intertype metal pot temperatures are regulated by thermostats actuated by an expansible and contractible alloy rod immersed directly in the line-slug metal. The portable pyrometer for checking the pot crucible metal temperature will pay for itself many times over.

The maintenance of proper mouthpiece temperatures in Linotypes or Intertypes is just as important as the temperature of the metal in the crucible. Even if the metal temperature is right, a great deal of trouble can be caused by the mouthpiece being either too hot or too cold. For best results, both metal temperature and mouthpiece temperatures should be properly maintained.

A combination portable pyrometer with two thermo-couples may be obtained by means of which the temperature of the metal as well as the surface temperature of the mouthpiece can be determined with the same instrument by merely changing the thermo-couple which requires but a moment.

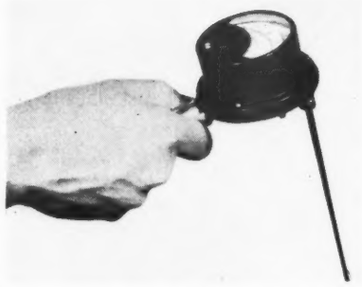


Fig. 3.—By means of this portable Pyro Prod Pyrometer the temperature of the metal in the Linotype or Intertype metal pot may be determined quickly. When it is desired to use the Pyrometer it is taken from its temporary storage place and the element is submerged directly into the molten metal of the metal pot crucible. After the temperature reading has been noted the Pyrometer may be taken to another metal pot or returned to its temporary storage place.

The metal pot temperatures are taken with the regular thermo-couple as shown in Fig. 3. A special interchangeable thermo-couple with flattened side is used for obtaining mouthpiece temperature. See Fig. 4.

PERMANENTLY MOUNTED COMBINATION PYROMETER FOR LINOTYPE AND INTERTYPE USE

In some plants a permanently mounted pyrometer may be preferred with an instrument mounted on each important typesetting machine for indicating both metal and mouthpiece temperatures.

A pyrometer has been developed recently for this service which consists of a pyrometer indicator and two-point selector switch to which the two thermo-couples are connected.

The mouthpiece thermo-couple has been specially designed to allow for attaching directly to the upper part of the mouthpiece so as not to interfere in any way with the operation of the machine.

The metal pot thermo-couple is encased in a small-diameter steel tube which is inserted into the molten metal through a hole drilled in the cover of the pot.

To take either metal or mouthpiece readings, it is merely necessary to turn the switch knob from one point to the other. This switch is mounted on the frame of the machine where it is convenient for the operator. The pyrometer itself is mounted higher up on the frame work of the machine where there is no danger of accidental injury. All connecting wires are in flexible cable so that free movement of the machine parts is in no way affected.

MONOTYPE MACHINES

For Monotype machines a pyrometer which is permanently mounted on the machine is generally used. Pyrometers for Monotype service can be obtained in two styles—one with directly attached rigid stem element and the other with flexible cable connection.

STEREOTYPE MAT SCORCHERS

Stereotype mats, whether made in the shop or purchased outside, must be scorched or heated before the metal is poured into them to remove moisture so as to avoid blistering the mats and the consequent casting of imperfect plates.

Continued on page 32

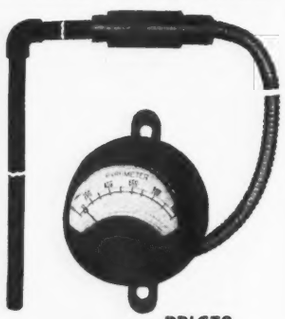
Why Burn Your Metal?

Why waste fuel?

Why spoil plates?

Why risk expensive delays?

Use an "Alnor" Pyrometer



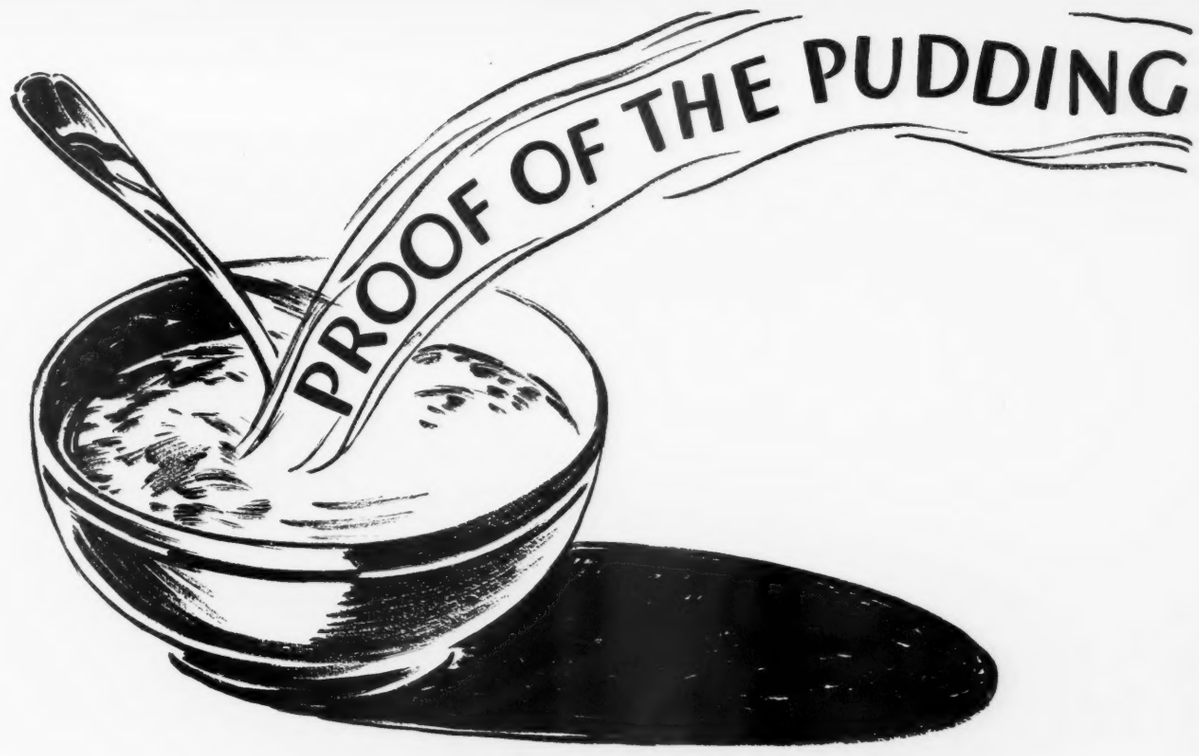
PRICES
$28 to $38
Depending upon size

Why guess at metal temperatures when you can equip each stereotype pot, electrotype or remelting furnace with an "Alnor" Pyrometer for as low as $28.00? The "Alnor" Pyrometer is accurate, rugged and durable. It can be installed by any shop man in a few minutes.

It pays for itself many times over in the saving of metal, time and fuel to say nothing of improving your printing through better plates.

Write for descriptive bulletin and list of users.

Illinois Testing Laboratories, Inc.
139 W. Austin Avenue Chicago, Illinois



There's no percentage in our listing on paper all the superior qualities of FLEX DRY MATS. There are no new adjectives to describe these mats, and you've seen and heard all the old ones many times . . . If we did, you'd be apt to think: "Well, here's another mat on the market . . . etc., etc."

When you come right down to analyze the situation, wouldn't it be foolhardy for an organization to spend good money producing another mat if it weren't something different . . . something better than the ordinary mat that is now being used?

The proof of the pudding is in the eating, of course. There's only one way for you to be convinced that FLEX DRY MATS produce good clean, sharp, clear type . . . real black solids . . . and detailed halftones. That's by trying them.

SEND AT ONCE FOR A FREE TRIAL SUPPLY

Why not send at once for a liberal supply for a thorough test? There is no obligation whatsoever on your part. Please specify the kind of equipment you use. How many casts you require from each mat. What thickness you prefer. What shrinkage you must allow for. When you're through testing, we feel confident you'll be using the superlatives, not we.

FLEXIDEAL DRY MAT COMPANY, 21 WEST ST., NEW YORK, N. Y.

FLEX DRY MAT

New Printing Mechanisms

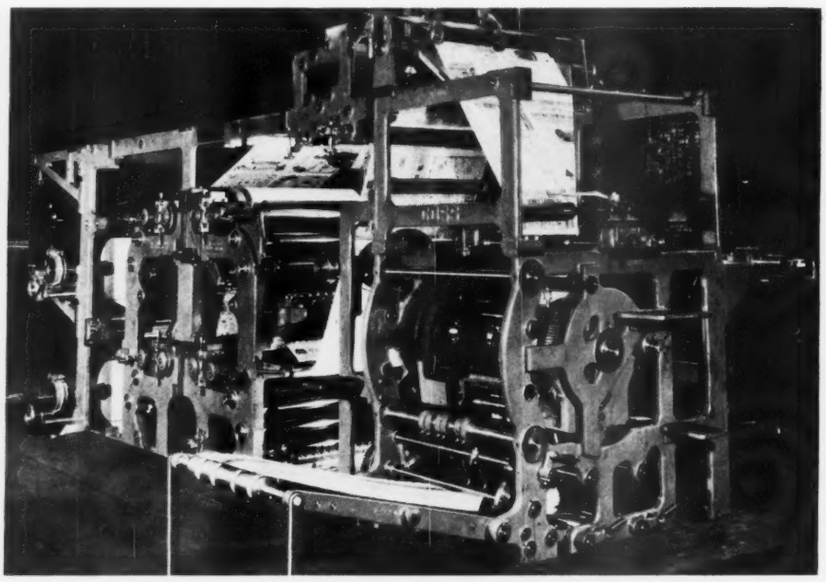
New Dexter Feeder, Router, Molding Blanket and Press

Newspapers in the medium-size group have for many years recognized an advantage in the tubular type press which permits a two-page jump in the delivery of products from 2 to 24 pages. A solution of the problem of producing quality printing at high speeds was recently presented by the Goss Printing Press Co., Chicago, with the introduction of the Goss Unitube Press which employs a new type of stereotype plate.

An improved lockup holds this plate *in tension* on the plate cylinder, so that it hugs the surface at all points. It is claimed this prevents any possibility of the plate climbing the plate stop to damage the impression cylinder, and prevents slurred impressions, because the plate cannot possibly lift. Fine printing, it is also claimed, can thus be produced at sustained speeds of 36,000 to 40,000 complete copies per hour.

The new Tension Lock plate is broached out, leaving two lugs on the inner edge. A single lockup device on the solid steel plate cylinder grips these lugs with one operation. Two plates are butted together at the center of the cylinder and against an adjustable plate stop on the gear side

Continued on page 27



View of new Goss Unitube Newspaper Printing Press with plate cylinder tension plate lockup which, it is claimed, causes the plate to hug the cylinder at all points. The press operates at speeds from 36,000 to 40,000 complete copies per hour. Four complete printing couples are incorporated in each unit with the units split vertically so that half units may be supplied for twelve or twenty-page machines. Half units may be installed without alterations to the press frame or changes in the drive arrangement. Preloaded Timken Tapered Roller Bearings are used for mounting plate and impression cylinders.

CECIL RUBBER ROLLER FINISHING MACHINES FAST BECOMING THE *STANDARD EQUIPMENT* *In Printing Plants of America*

CECIL equipment has taken the uncertain results . . . cost of experimentation . . . inconvenience . . . worry and lost time *out* of rubber roller refinishing.

ECONOMY

There is real economy in providing the *proper* machine for adequately protecting and refinishing your rollers.

LIST OF USERS
Minneapolis Tribune
Kansas City Star
Kansas City Journal-Post
Washington Times
Washington Evening Star
Roanoke Times
Altoona Mirror
Cincinnati Times-Star
Godfrey Roller Company
Sydney Australia Morning Herald
San Francisco News
McCall Company, Dayton, Ohio
Toronto Canada Star

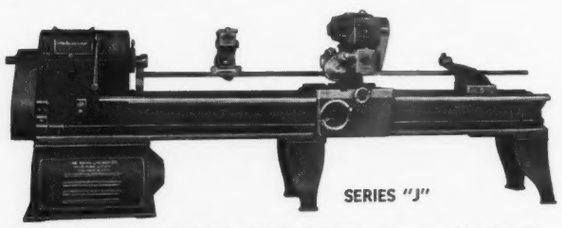
The Metal Cutter Takes "the Grind" Out of Roller Grinding—*"It Cuts"*

It is highly efficient . . . accurate . . . dust-less . . . and economical. Inexperienced employees can operate.

INVESTMENT

Compare your present costs . . . and the finished job you are getting on your rollers with what Cecil Equipment will do for you. Do it today . . . you will be surprised to learn of savings and satisfying results that can be accomplished within your plant.

HEAVY DUTY, motor driven oil incased, all geared head Rahn-Larmon lathe, complete with all Cecil Equipment. Other lathe models with any length of bed—to suit your conditions.



Specially designed, HEAVY DUTY Cecil Rubber Roller Finishing Machine incorporating all Cecil Equipment. Motor driven, geared head, ball-bearing, Rahn-Larmon built.

Accuracy . . . ease of operation . . . speed . . . cleanliness . . . economy of operation and the most modern equipment should be considered in the selection of your rubber roller refinishing equipment.

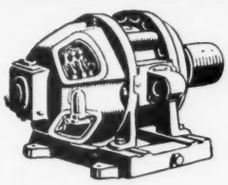
Materials, workmanship and results positively guaranteed.

Represented by The Goss Printing Press Co.

DUST-LESS EQUIPMENT CO.
1406 MONROE ST., N. E. WASHINGTON, D. C.
Write for Prices and Full Information

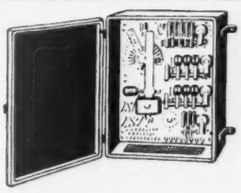
These General Electric Products will help you Reduce Costs—Improve Service

New economy of operation—greater speed and reliability of production—better press work—more satisfactory service for your customers—these are the benefits you will get by selecting General Electric products for the electrical requirements of your plant. Ask the G-E office nearest you for further information on these G-E products, or write General Electric, Schenectady, N. Y.



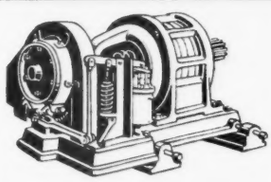
Type M wound-rotor motor. A complete line of all types of motors, a-c. and d-c., is available

A-c. and d-c. pedestal-type preset-speed controller for job presses, folding machines, etc.



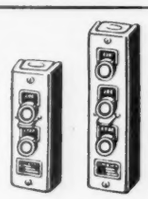
Remote-operated controllers—a-c. and d-c.—for convenient, accurate speed regulation

A-c. and d-c. master switch, for mounting on press. For use where speed control at press is desired



Complete line of a-c. and d-c. double-motor drives

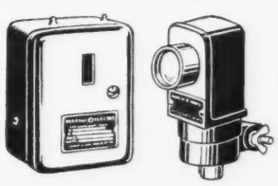
Full-automatic control panel—a complete line of a-c. and d-c. controllers for double-motor drives



New line of heavy-duty push-button stations—reliable and safe

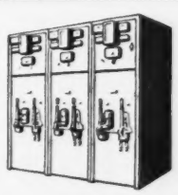
Electric heating devices for metal-melting pots—give clean, economical, accurately controlled heat

G-E Thrustor for control of guillotine paper cutters—gives operators greater protection

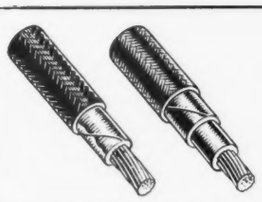


Photoelectric relays—for accurate register control, counting, and other jobs

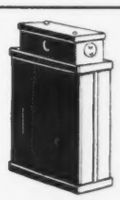
Transformers for power-distribution systems—give long life and efficient service



Switchboards for power-distribution systems—give years of trouble-free operation



Wire and cable—a type to meet every requirement of the printing plant



Capacitors—for improvement of plant power-factor—bring important savings in power costs

Experienced G-E sales engineers will help you select exactly the right equipment for your plant

General Electric's nation-wide system of warehouses and service shops—for prompt, efficient service

011-56

GENERAL ELECTRIC

Short Cuts and 'phat' in LUDLOW Composition

THE simplicity of operation and ease with which the Ludlow carries any heavy burden is remarkable. We recently ran twelve full page ads for one firm through our ad room without any special preparation whatsoever, and all the ads were set in the same type family, which made the display most pleasing to the advertiser.

The many advantages of the Ludlow, the short cuts and "phat" in ad composition that the system makes available, we now accept as a matter of course, and after five years of successful operation, we sometimes wonder how we ever got along without it.

CHARLES H. BLEUER
Foreman Composing Room
DAVENPORT DEMOCRAT

LUDLOW TYPOGRAPH CO.
2032 Clybourn Avenue + + Chicago, Illinois

Set in Ludlow Karnak Medium and Karnak Black.

Trade Guests at Conference

The policy inaugurated at the St. Louis A. N. P. A. Mechanical Conference of admitting representatives of advertising agencies, equipment and supplies companies to the Conference sessions will be continued at the Detroit conference. Any company serving the newspaper printing industry will be privileged to send one representative to attend the conference sessions as an observer. Any company wishing to be represented in the meetings should apply to Manager Wines of the A. N. P. A. Mechanical Department.

Exhibit

Will Show Mechanical and Technical Details

By STAFF WRITER

HAVE you, as a mechanical executive, viewed the exhibits of daily newspapers at the various A. N. P. A. Mechanical Conferences and have you wondered how some mechanical executives obtain excellent printing results? Well, you may have your various queries answered at the Detroit Mechanical Conference which will be held at the Statler Hotel, Monday, Tuesday and Wednesday, May 27, 28 and 29.

Manager Walter E. Wines has mailed a questionnaire to each A. N. P. A. member newspaper so that all those sending exhibits for this year's conference can tell how good printing results were secured. It is Mr. Wines' intention to display either the questionnaires with the paper exhibits or to print and distribute them separately to those attending the conference. In addition, general questionnaires are being mailed to this year's Ayer prizewinners, most of whom have replied at this time.

The questionnaire covers mechanical details vital to good stereotyping and presswork. Questions relative to mat and moisture specifications, molding methods and equipment, height of material in forms, metal, metal heating and metal temperatures are included in the stereotyping portion of the questionnaire. Various questions respecting newsprint, ink, presses, running speeds of presses, rollers, blankets, ink fountains and underlays appear in the presswork section of the questionnaire.

This innovation, it is felt, will present a real opportunity to secure worthwhile technical data about newspaper printing from those mechanical executives who are obtaining good results.

THE PROGRAM

At the present time the program has not been completed. However, the opening session on Monday, May 27, will be devoted to "Safety in Newspaper Plants." The principal speaker will be P. H. Johnson, Engineering and Inspection Division, The Travelers, Hartford, Conn. John J. Shea of the Worcester (Mass.) *Telegram* and *Gazette*, and B. F. Garrity, Mechanical Superintendent of the Hartford (Conn.) *Times*, will respond to Mr. Johnson's address.

WASHINGTON POST'S NEW PRESSES *equipped with* GOODRICH ROLLERS

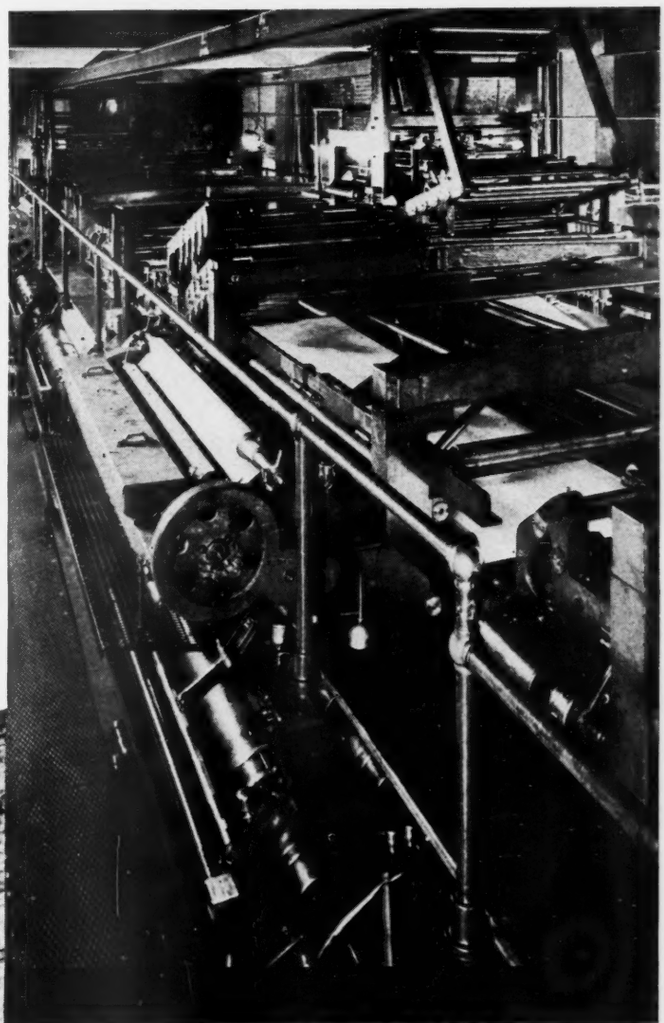
Reading time 50 seconds

★ ★ ★ When one newspaper after another re-orders Goodrich Printers' Rollers, that isn't *news*—it's *logic.* The Washington (D. C.) Post is one more of the many leading papers whose experience with Goodrich Rollers has lead inevitably to re-orders for equipping new presses.

The Post has found that for production efficiency, clear printing and savings of both time and money, Goodrich Rollers do the job better. Users *everywhere* notice a difference after their presses are equipped with these rollers.

Throughout the run, Goodrich Rollers will yield printing as fresh as the news itself. They will eliminate shutdowns for resetting or washups, remain uniform despite temperature changes, give years of service with only occasional regrinding.

Here is an opportunity to improve the appearance of both your paper and your profit and loss statement. Install Goodrich Printers' Rollers. Write today for full information.



★ *Goodrich Printers' Rollers have been installed on Scott presses by The Washington Post.*

★ *Home of The Washington Post, Washington, D. C.*

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
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Goodrich *Printers'* Rollers

African Black

Is a high-grade ink for book and cut work. It is made in three consistencies.

No. 5459 slow drying, heavy body, for antique finish and similar paper stock.

No. 6718 quick drying, medium body, for super and better grades of machine-finished book papers. May also be used on coated stock.

No. 5015 medium drying, soft body, for the softer grades of machine-finished papers.

African will produce a lustrous black overtone on solids and a pleasing warm undertone in middle tones and high lights. Prints type sharp and clean.

Standardize on African Black

In Every Way a Modern Ink

●

GEO. H. MORRILL CO. Div.

General Printing Ink Corporation

100 SIXTH AVENUE NEW YORK, N. Y.

Branches: **Boston, New York, Philadelphia, Detroit, Chicago, St. Louis, Fort Worth, Minneapolis, San Francisco, Los Angeles, Seattle.**

Conference Exhibits

Ample space has been reserved for commercial exhibits on the ballroom floor adjacent to the A. N. P. A. Mechanical Conference meeting room in the Statler Hotel, Detroit. The Conference will be held Monday, Tuesday and Wednesday, May 27, 28 and 29.

Photo-engraving, reports Manager Wines, will receive more attention than usual, as the interest of publishers in this subject appears to have greatly increased during recent months. W. W. Warfel, Maurice Joyce Engraving Co., Washington, D. C., has been assigned the subject "How to Get the Best Results from Stripfilm." Ernest Scherer of the Minneapolis (Minn.) *Tribune* will describe his "Roll-up Method of Etching Halftones." Several representatives of small offices operating engraving plants will also make talks.

On Wednesday morning special attention will be given to the color printing problems confronting the small newspaper. This discussion will be led by George Bolton, composing room foreman, and Charles Davis, press foreman, of the Joliet (Ill.) *Herald-News*. At this session Lester Yeager, pressroom foreman, Marion (O.) *Star*, will talk about the use of 38 in. diam. rolls on a Tubular press and consequent saving in waste.

In addition there will be reports on a number of unusual or unique items of equipment and operation.

INK COVERAGE

Several mechanical superintendents are disturbed, states the manager, because of a drop in ink coverage during the last year, for which no satisfactory explanation has been forthcoming. One of them suggests that this would be a good subject for discussion at Detroit. He writes:

> I feel that the subject of ink coverage is a vital one. If we are to approach it at the Mechanical Conference and obtain any real value from the discussion, the discussion must be based on facts rather than memory. Do you think that it would be well to mention the interest of several of the mechanical men in this problem and urge those who keep ink coverage figures to bring them from January 1, 1933, to date, in order that we may compare notes based on actual figures.

Representatives of members who keep ink coverage figures are requested to bring them to the Conference whether or not they have experienced any decrease in coverage.

STATLER HOTEL FACILITIES

Meeting room, exhibit room, and registration desk will all be located on the ballroom floor. The ballroom has been reserved for the newspaper and commercial exhibits. The room selected for the Conference sessions is adjacent to the ballroom. The evening meetings will be held in smaller rooms. All these rooms are air-cooled. The room rates range from $2.50 to $6.00 single, and from $5.00 to $8.00 double.

New Headletter Face

A further extension of the popular Vogue series is announced by Intertype Corporation. This time it is the Bold Condensed as shown here in the 30-point size. The 24 and 18 point sizes are also ready. When completed the range will include the usual progression of sizes from 12 to 60 point.

ABCDE abcdefghijk

Other faces for use with the new Intertype Composing Stick Attachment are now being delivered, among which are the Vogue and Cairo families and the Cheltonian Bold Truform Italic.

A *Dollar Saved* IS A DOLLAR NET . . .

Every dollar you can cut from your costs is a profit dollar—equivalent to a dollar added to the selling price. • For example: a certain printer had an order for 20,000 folders, 11x14 inches, printed two sides in one color. • He could run that job on his "B" Kelly or on another press which was standing on his floor. If he ran it on the other press, sheetwise of course, his cost would have been as follows:

Make-ready (2 hours at $2.45 per hour)	$4.90
Presswork, 40,000 impressions (18.8 hours at $2.45 per hour)	46.06
Total production cost of presswork	$50.96

But, naturally, he ran it, work and turn two out, on his "B" Kelly:

Make-ready (3.1 hours at $2.45 per hour)	$7.60
Presswork, 20,000 impressions (9.4 hours at $2.45 per hour)	23.03
Total production cost of presswork	$30.63

On this job the printer made an additional presswork profit of $20.33—because he ran the job on a Kelly. • Costs may vary with different equipment, but the fact remains—on most of the jobs handled in the average printing plant, the Kelly makes many an extra dollar.

KELLY

AUTOMATIC PRESSES

Kelly Presses are equipped with Kimble Motors—motors designed especially for the Graphic Arts Industry.

AMERICAN TYPE FOUNDERS SALES CORPORATION, ELIZABETH, NEW JERSEY

Ohio-Michigan Conference

The Ohio-Michigan Conference of the International Club of Printing House Craftsmen will be held at the Pantlind Hotel, Grand Rapids, Mich., on May 17-18. It is expected that Public Printer A. E. Giegengack will be a speaker at the Conference.

In addition to the interesting program, an exhibit of printing equipment and supplies will be provided. The following equipment manufacturers, as well as others who are expected to be present, will have exhibits:

Baum Folders.
Carpenter Paper Co., Foreign Printing Exhibit.
Central Trade Plant.
Challenge Machinery Co., new Drill.
Hacker Mfg. Co., Plate Beveling Machine.
Brandtjen & Kluge, Kluge Press.
Ludlow Typograph Co.
J. A. Richards, the Sawmaker.
F. P. Rosback Co., new Rotary Round Hole Perforator.

R. Lyle Griffin, superintendent composing room, Tische & Hine Company, Grand Rapids, is Chairman of Exhibits for the Ohio-Michigan Conference.

Predicts Increasing Use of Roto Printing

E. E. Radloff, manager of C. B. Henschel Mfg. Co., Milwaukee, Wis., returned recently from a European trip. While in Europe, he visited the immense Leipzig Fair, which has been held annually for centuries.

The Graphic Arts Industry, like other major industries, has a separate and permanent building for its own use. Mr. Radloff reports the exhibition of Graphic Arts machinery and equipment was interesting because of the number of exhibitors and types of equipment displayed. There were at least thirty makes of flat-bed presses shown by as many different manufacturers. The offset field was represented by four large firms with both single and two-color presses. The rotogravure field had at least four manufacturers exhibiting presses and it can be said that rotogravure is being used to a much larger extent than is the case in the United States.

Mr. Radloff thinks much better work is being done in Europe, especially in the field of rotogravure multicolor printing. This may be due to a better knowledge of platemaking which is an old institution in Germany, in which country the process originated. The beautiful work being done in Europe, said he, leads one to believe this process, when better understood (especially from the platemaking standpoint) will find an increasing use in this country.

Blue Eagle Restored

In a bulletin dated April 8, Secretary James E. Bennet, Code Authority for the Printing Equipment Industry and Trade, reproduces copy of a memorandum issued by the NRA in which it is stated that the right to use NRA insignia has been restored to E. P. Lawson Co., Inc., New York. The Lawson Company deals in printing machinery and is a member of the printing equipment and trade. Referring to the Triplex Screw Co., of Cleveland, as well as the Lawson Company, the memorandum states this action was taken after satisfactory adjustments of past code violations had been arranged and certificates of present and future compliance submitted.

New HSP Offices

New York City offices of the Harris-Seybold-Potter Company after May 1, will be on the twenty-sixth floor of the McGraw-Hill Building at 330 West Forty-Second Street.

J. W. Valiant, Vice President and Eastern District Sales Manager, cordially invites everyone to visit the new quarters.

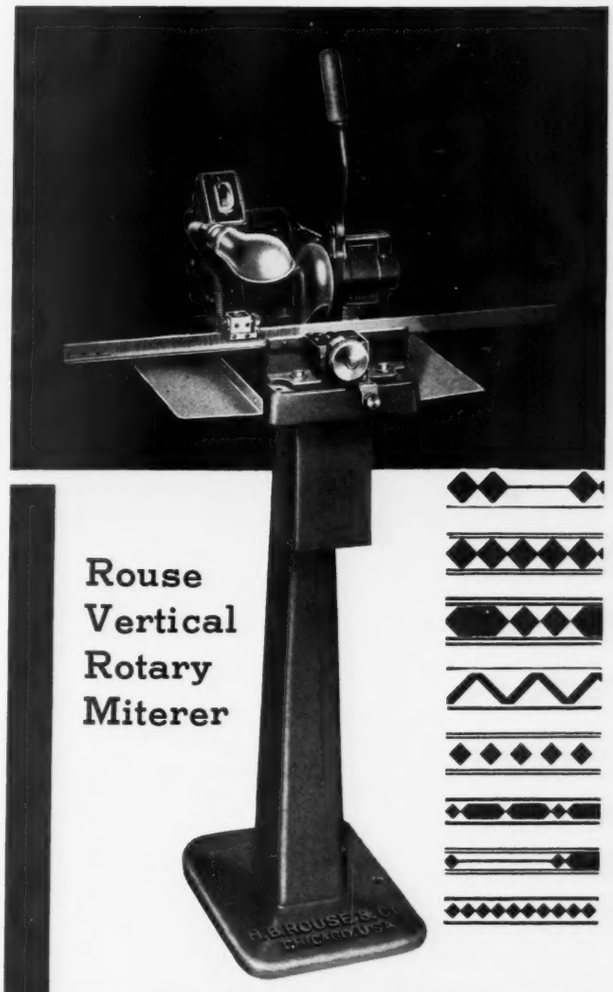
Border 40 Boxes in 10 Minutes

A hundred miters or a thousand—all are fast and easy with the Rouse Vertical Rotary Miterer. This modern Rouse Miterer is built for high-speed production. It is mechanically up-to-the-minute in construction.

The Rouse Vertical Rotary Miterer divides mitering time. Right and left miters are completed in a single operation, direct from strips—nearly 20 every minute. Strips are held by an automatic clamp, with maximum safety and ease of operation.

Hundreds of angle borders and ornaments may be cut on the Rouse Vertical Rotary Miterer, affording many interesting decorative treatments. Other remarkable features will interest you.

Complete information will be sent at your request. Use the coupon below or write—TODAY.



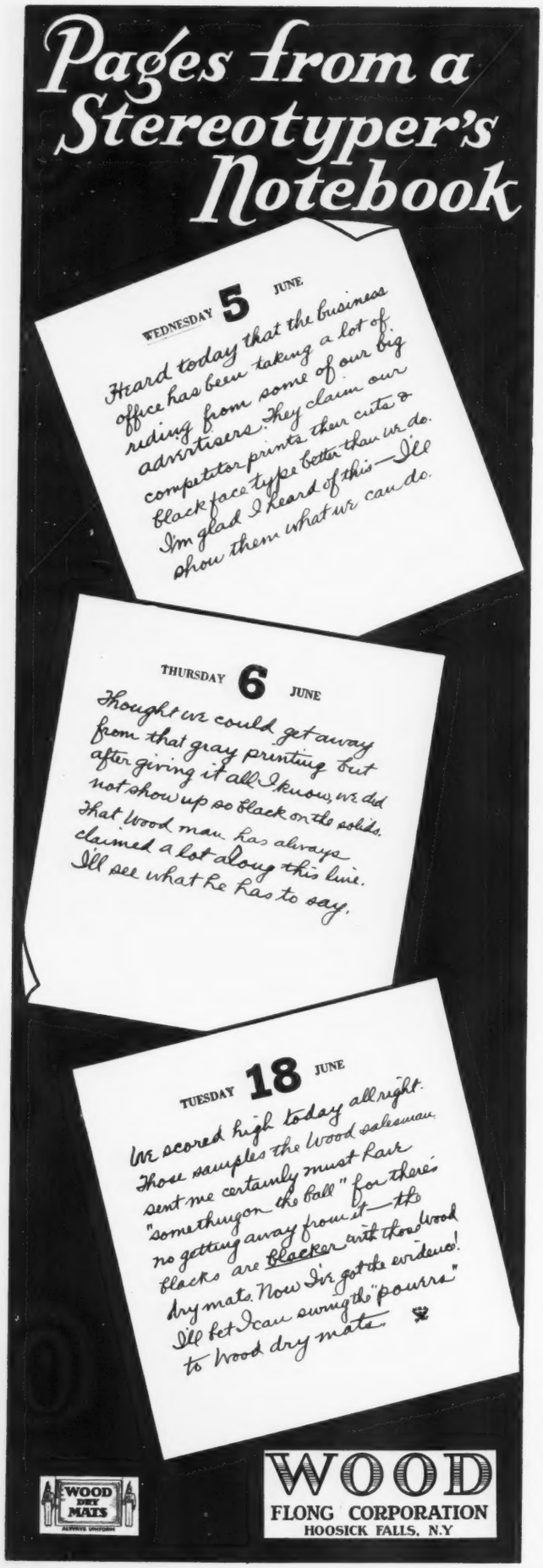
Rouse Vertical Rotary Miterer

H. B. ROUSE & COMPANY
2216 Ward Street, Chicago

Without obligation, please send complete information on the Rouse Vertical Rotary Miterer.

Name_____

Address_____


Pages from a Stereotyper's Notebook
WEDNESDAY 5 JUNE
Heard today that the business office has been taking a lot of riding from some of our big advertisers. They claim our competitor prints their cuts & black face type better than we do. I'm glad I heard of this—I'll show them what we can do.
THURSDAY 6 JUNE
Thought we could get away from that gray printing but after giving it all I know, we did not show up so black on the solids. That Wood man has always claimed a lot along this line. I'll see what he has to say.
TUESDAY 18 JUNE
We scored high today all right. Those samples the Wood salesman sent me certainly must have "something on the ball" for there's no getting away from it—the blacks are blacker with the wood dry mats. Now I've got the evidence! I'll bet I can swing the "powers" to Wood dry mats.
WOOD DRY MATS
ALWAYS UNIFORM
WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y

Waste

Of Newsprint Greatly Reduced

By STAFF WRITER

IN MAKING his report to the American Newspaper Publishers' Association, Manager W. E. Wines reviews the work of the Department for the past year. Included in the report is a review of the St. Louis Conference as well as details about arrangements completed for this year's conference in Detroit.

In describing the work of the Department, Manager Wines states that the percentage figures on newsprint waste as published in the quarterly bulletins are still declining, but the reduction during the last eight years has been so great that not much further accomplishment in this direction can be expected. Publishers are urged, however, to continue to watch these figures in their own offices, as it is only by constant vigilance that they can be kept at a minimum. In this respect they are no different from other expense items. The Department is always glad to receive from any member office a report of any reduction in newspaper waste, so that this may be published in the bulletins for the benefit of other members.

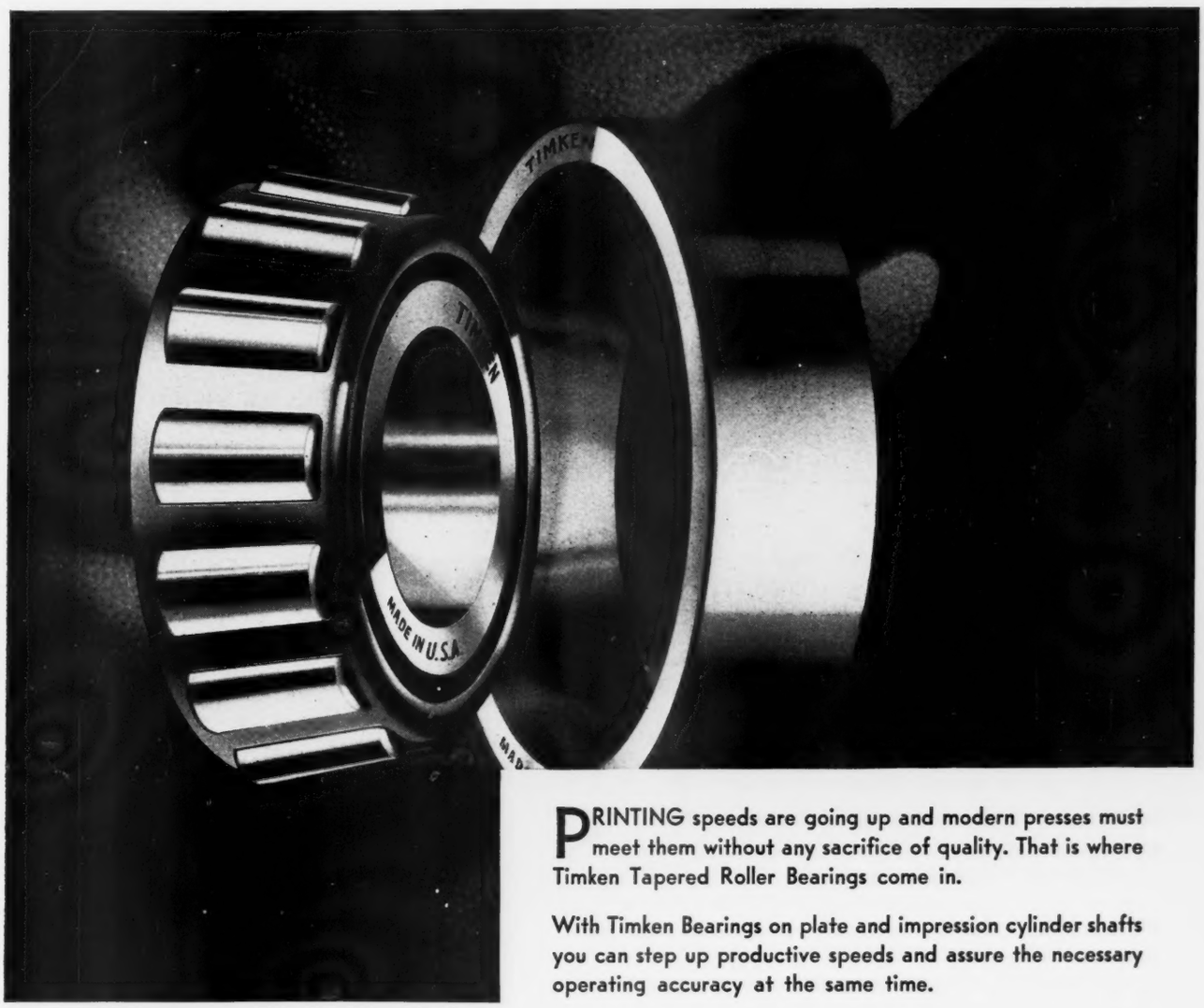
The usual biennial survey of type page sizes and paper roll widths was completed and reported in a bulletin. The bulletin was based on reports from 517 newspapers. The report shows that the trend toward the adoption of 8 columns, 12 ems steadily continues. Comparison with the report issued two years previously shows that the percentage of papers using 8 columns, 12 ems increased from 74 to 82½ per cent. The remaining 17½ per cent use 15 other sizes. A column giving actual printed page width has been added, as it is believed that these data, being related to mat shrinkage will be of use in connection with color printing.

The Manager also discusses the meticulous care which is bestowed upon individual inquiries relating to newspaper production received from member papers. He states that one of the more important functions of the department is the answering of specific inquiries from member offices. A statement of the mere number of these would not be impressive, but the amount of time and effort expended in answering them is very great. If there were any considerable amount of duplication in these inquiries, some of them could be answered by a series of form letters, but experience has shown that this is entirely impracticable. Almost without exception, each inquiry is an individual problem demanding individual treatment and, in the majority of instances, no little research is required to determine a satisfactory answer. As the result of this activity, as has been pointed out before, the Department has accumulated valuable files of information on a wide variety of subjects. All of this information is, of course, available to any member by application to the Mechanical Department. A large part of this accumulated information does not seem to be of sufficient general interest to warrant the expense of publication in bulletin form.

Flint Moves

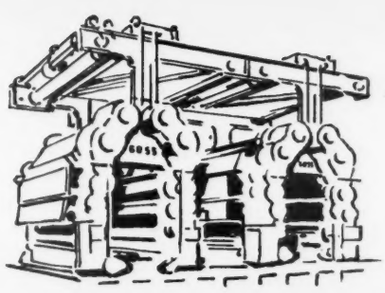
To accommodate its increasing business, the Howard Flint Ink Company has moved its Chicago factory into a larger and more conveniently located building at 2001 Calumet Ave., Chicago.

Machine tool precision for your printing presses



PRINTING speeds are going up and modern presses must meet them without any sacrifice of quality. That is where Timken Tapered Roller Bearings come in.

With Timken Bearings on plate and impression cylinder shafts you can step up productive speeds and assure the necessary operating accuracy at the same time.



For friction elimination is only one function of Timken Bearings. In addition, they hold moving parts in correct and constant alignment and protect them against radial, thrust and combined loads. That is why they are used on machine tool spindles where tolerances as close as one ten-thousandth of an inch are frequently specified.

The new Goss press installed at the plant of the Chicago Tribune is a good example of the value of Timken Bearings in modern printing equipment.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* **BEARINGS**

Misplaced Cuts

Are the cause of considerable trouble in many composing rooms when not fastened to bases. If cuts are not fastened, proof press ink rollers are liable to pull cuts from bases and cause damage to type and impression cylinder packing.

Avoid These Troubles by Using

BOOTH'S

Printers' ZINK Cut Cement

Only 50 cents per New Large Tube

Lots of 1 dozen, $5.00 per dozen tubes
Lots of 6 dozen, $4.00 per dozen tubes
Gross lots, $3.00 per dozen tubes

This collapsible tube has been designed especially for applying the cement to cuts and bases. BOOTH'S Printers' Zinc Cut Cement will hold cuts of any kind to metal or wood base.

BOOTH'S
"Green" Keyboard Rubber Rolls

Try a pair of these quality rolls. Colored green for your protection. These rolls are compounded from a constantly controlled product to provide an unvarying product.

Corrugated or Plain, $1.20 per pair; $6.60 per dozen; 50 cents each in lots of 100.

BOOTH'S
Engravers' Concentrated Rubber Cement

$7.50 per 5-gallon can. When mixed 4 or 5 to 1 with benzol makes 20 to 25 gallons of rubber solution.

The E. A. Booth Rubber Co.
364 Rockefeller Bldg. Cleveland, Ohio

The Editor's Handbook

While an unusual new publication issued by Kable Brothers Company, Publication Printers, Mt. Morris, Ill., carries the title: *The Editor's Handbook*, it is, nevertheless, intended for use by writers, teachers, students, secretaries, proofreaders or anyone else who works with words.

In this new book the matter of style in the use of words is given by the direct method so that the answer to any query may be found by locating the word, expression, abbreviation, term, etc., under its proper alphabetic classification. In addition to the comprehensive style dictionary an important list of technical terms common to editorial and printing usage is included. Copy fitting and copy estimating sections and a section on the preparation of manuscripts are included in the book.

Leslie L. Lewis, Editor in Chief for Kable Brothers Company, states: "*The Editor's Handbook* is in no sense intended as a substitute for the dictionary. Rather it is planned as a valuable supplement thereto, saving time, and answering many questions not answered in *any* dictionary.

Printing EQUIPMENT *Engineer* recommends *The Editor's Handbook* to all those who work with words—not alone for its direct convenience but for its timesaving qualities as well. A copy will be sent free to any customer of Kable Brothers Company. The cost to others is $1 per copy. Size 7 in. by 10 in., 84 pp.

Hearst Promotions

Fred Hudson, until recently assistant mechanical superintendent of the Chicago *Herald and Examiner*, has been appointed general superintendent of the mechanical departments. Maurice Hesse, who has been succeeded by Mr. Hudson, has been placed in charge of color printing in Chicago and will also serve in an advisory capacity for color printing for the entire Hearst organization.

Announces 16-pt. Bodoni

A 16-point size of Bodoni—a size favored by the master craftsmen in the early days of printing, and one frequently used in many beautiful books—is now available on the Linotype.

"This new size of Bodoni," states the Mergenthaler Linotype Company, "should be extremely useful and prove popular with book designers, printers, advertisers and others who cannot get the desired effect with the 14 or 18-point sizes.

ABCDEFGHIJKLMNOP
ABCDEFGHIJKLMNO
ABCDEFGHIJKLM

abcdefghijklmnopqrstuvw
abcdefghijklmnopqrstu
abcdefghijklmnopqr

"The lower-case alphabet length of the 16-point is 182 points—about half way between the 163-point length of the 14-point, and the 208-point length of the 18-point.

"That a difference of only two points in letter height can bring about a visual effect markedly different from that produced by the 14 or 18-point size may strike some printers as hard to believe, but even the brief one-line comparisons of those three sizes that follow suggest the wide range of usefulness of the new 16-point size."

Hold Spring Meeting

The spring meeting of the Texas-Oklahoma Mechanical Conference was held at the Adolphus hotel, Dallas, Texas, April 29-30. Meetings of Texas newspaper mechanical executives will be held twice yearly in the spring and fall.

W. J. Phillips, plant superintendent of the Oklahoma Publishing Co., Oklahoma City, Okla., has been serving as temporary chairman and secretary since the organization's first meeting in October, 1934.

On the Dallas program provision was made for the election of permanent officers. Elmer Hodgkinson, superintendent of stereotyping, Oklahoma City Publishing Co., was scheduled to preside and speak at the Monday (April 29) session. Leven T. Deputy, composing room superintendent, Dallas *News* and *Journal*, presided and spoke at the Tuesday morning (April 30) session. At the Tuesday afternoon session, F. S. Benecke, pressroom foreman, Ft. Worth *Star-Telegram*, presided and spoke upon the subject of "Pressroom Maintenance and Practical Economies." A discussion on "Two-Piece Packing vs. Three-Piece Packing" was one of the live topics on the program.

Assistant to Duboc

To help handle the many technical matters involved in the program of the A. T. F. Type Merchandising Department, Elmo Duff, formerly Foundry Superintendent, has been promoted to the position of Assistant Manager of the Department under W. A. Duboc. The special knowledge necessary to develop plans now under way compelled the Sales Department to draft Mr. Duff, whose knowledge of type and its manufacture should be extremely useful to the firm in his new position.

School Reopened

Owing to the upturn in the printing business generally, American Type Founders Sales Corporation has reopened the Kelly Instruction School. Three nights a week classes will be held at the branch office, 104 East 25th Street, New York, where applications for enrollment should be directed.

New Ludlow Typeface

Karnak Black Condensed is the latest typeface announced by the Ludlow Typograph Company as available in matrix form. This face represents another addition to the Karnak family already available in the Light, Medium, and Black versions.

Karnak Black Condensed, it is claimed by its sponsors, delivers the maximum of emphasis in the minimum of width

A NEW LUDLOW TYPEFACE
Ludlow slugline composition

Specimen of Karnak Black Condensed which has been designed for use in commercial printing and newspaper advertising.

or measure, and embodies the present-day trend toward the use of tall and narrow typefaces with modern simplicity of design.

This new typeface is available in sizes from fourteen to seventy-two point. Specimen sheets will be sent gladly upon request to the Ludlow Typograph Company in care of *Printing* EQUIPMENT *Engineer*.

BURGESS CHROME MATS

Laboratory Research Developed

BURGESS
CHROME MATS

This Company has never made false or exaggerated statements about its product. When we say **"Burgess Mats Shrink Uniformly"** we mean just that . . . and your own experience will prove it.

BURGESS CELLULOSE COMPANY
FREEPORT, ILLINOIS

CHROME MATS
A Laboratory Product
A 218

Pacific Coast Representative, RALPH LEBER,
426 Polson Bldg., Seattle, Washington

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

"MATS?

"that's a closed issue!"

SAYS one stereotype Superintendent —"In this office, M-A-T spells Certified. We have used them from the first. We have never had any trouble with them. We get results, day after day, that are as perfect as we could reasonably wish. Why tamper with perfection?"

Certified Mat users rarely change. Beside the solid benefits of quick satisfactory stereotyping, they have the mental relief of dismissing ONE question as definitely solved.

For dependable stereotyping rely on Certified Mats, made in the U.S.A.

CERTIFIED DRY MAT CORPORATION

340 Madison Avenue • New York City

Certified DRY MATS • • • •

Riekert

Master Press Manipulator

A FIVE-COLOR rotary press speeds on and on, turning out work unceasingly. As the press hums rhythmically, it is difficult to picture it as a mere collection of some three thousand parts of all sizes and shapes. But that is exactly what it was before the trained hands and skilled eyes of Eugene Riekert lent themselves toward making it a finished operating press.

Men who have seen "Gene" adroitly assembling the jigsaw puzzle of a giant press, marvel at the ease with which the parts go together. The skill required for a job of this

Eugene Riekert, whose sensitive ear and observing eye make printing presses operate rhythmically.

nature has been acquired over a period of 42 years with the U. P. M.-Kidder Press Company of Dover, New Hampshire. During that time "Gene" has assembled, dissembled and reassembled many kinds of presses in practically all sections of the United States.

Just a short time ago, the Kalamazoo Vegetable Parchment Company installed a U. P. M.-Kidder press. "Gene" and a helper did the complete assembly. This new press is of the rewinding type and is to be used primarily for the printing of wax paper. It is capable of running at a speed of 10,000 impressions per hour which is about 2.77 per second. An interesting feature of this press is that it is equipped with a new punching system of photo-cell marking.

"Gene" is almost like one of the family out at Parchment since he has installed all of KVP's various presses as well as moving several from one location to another.

He came to this country from Stuttgart, Germany, at the age of 18, with no friends and was unable to speak English. For a time he worked with a blower company but he soon left to throw in his lot with the U. P. M.-Kidder Press Company. His home is in Dover, New Hampshire, where he has three sons and four daughters.

1935 Ayer Award

The New York *Times* on April 10 was awarded first place for typographical excellence among 1,539 daily newspapers entered in the Fifth Exhibition of Newspaper Typography conducted by the Ayer Galleries. It is the second time the *Times* has won the Francis Wayland Ayer Cup, which, under the rules of the contest, passes permanently into the possession of the paper winning it three times.

In addition to receiving the sweepstakes award for the best typography among all the papers entered, the New York *Times* also received first honorable mention among the 135 newspapers of 50,000 circulation and over. Second place in

this circulation division went to the New York *Herald-Tribune,* which like the *Times,* has twice received the cup. Third honorable mention was given the *Evening Star,* Washington, D. C.

The Hartford *Courant,* Harford, Conn., which won the cup in the 1932 exhibition, received first honorable mention among the 380 papers entered with circulations of 10,000 to 50,000. Second place in this division went to the Providence *Journal,* Providence, R. I., and third place to the Sheboygan *Press,* Sheboygan, Wis.

Among the 1,025 papers of less than 10,000 circulation that entered the competition, *Public Opinion,* Chambersburg, Pa., was chosen for the first award. Second place went to the Daily *Missoulian,* Missoula, Mont., and third to the Amsterdam *Evening Recorder,* Amsterdam, N. Y.

Judges of the contest were A. E. Giegengack, Public Printer of the United States; Prof. H. F. Harrington, director of the Medill School of Journalism, Northwestern University, Chicago; and Mark Foote, president of the National Press Club and Washington correspondent of the Booth Newspapers of Michigan.

Moves San Francisco Office

The San Francisco office of Intertype Corporation, has been moved into new and larger quarters at 500 Sansome Street. The new location brings the office within closer reach of the city's printing center and the increased floor space provides for the recently augmented stock of Intertype machines, matrices and supplies.

Among the chief advantages of the larger quarters, according to Milton J. Durand, manager of the Western office, is the provision for a more commodious display room in order to adequately demonstrate all of Intertype's recent inventions and improvements.

New Mechanisms

(Continued from page 16)

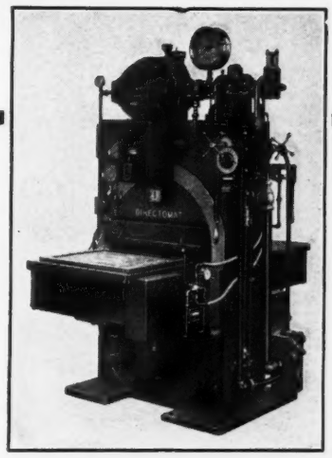
of the press, thus making possible the printing of double-page spreads without additional equipment.

Further provisions for quality printing and smooth operation at high speed are advanced in the use of preloaded Timken Tapered Roller Bearings for mounting the plate and impression cylinders. This is the same construction as used on the Goss High-Speed Anti-Friction Press and eliminates the pounding action of the plate against the blanket when crossing the gutter. The possibility of cylinder jumps, it is said, is eliminated by locking the eccentric in the frames on its loaded side.

Greater ink distribution is also provided on the Goss Unitube Press. The ink is fed from an ink fountain of large capacity into the inking mechanism by an improved ductor roller attachment. A measured and predetermined quantity of ink is taken from the fountain and positively placed into the inking mechanism, so much for each page. No change in color, it is claimed, takes place from threading to the highest speeds of the cylinders.

On each unit of the Goss Unitube Press it is possible to print one color and black on both sides of each web, or if desired, the whole unit may be used, and black can be printed on one side of the web with two colors and black on the opposite side.

Designed so that four complete printing couples are incorporated in each unit, the Goss Unitube Press provides for expansion without alterations of the press frame. It permits the printing of approximately 15,000 papers without a roll change, delivers light or heavy products smoothly with



The DIRECTOMAT Hydraulic Matrix Press

sets a new standard of speed, quality, and all-around efficiency in matrix moulding. It eliminates guesswork and permits application of the right amount of pressure to conform with the varying characteristics of form, mat and blankets. It also eliminates the stretch of the mat, which is unavoidable with roller moulding.

In this age of pictures — people get their news from pictures, they get their amusement from pictures, they buy from pictures. No wonder well-printed picture pages increase the circulation of papers. No wonder display advertising expands. It is in keeping with the trend of the times, which demands *Better Pictures* and *More Pictures.*

The *Directomat* produces deeper and sharper mats than can be obtained by matrix rollers and helps to provide that quality printing so appreciated by advertisers and readers. These superior results and perfect register are obtained by *cold* moulding for regular pages and *hot* moulding for picture pages and color pages.

Arrange for a demonstration of the machine in New York, Chicago, Philadelphia, Cincinnati, Detroit, Milwaukee, Buffalo, Montreal, Dallas, San Francisco, Kansas City, Binghamton, or Rutherford, N. J.

Do not fail to see the machine in operation during the forthcoming A. N. P. A. Mechanical Conference in Detroit.

Lake Erie Stereotype Equipment Company

Division of Lake Erie Engineering Corporation, Buffalo, N. Y.

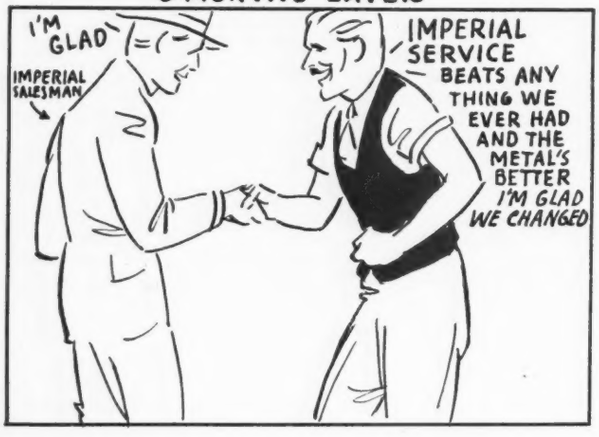
KENMORE STATION, BUFFALO, N. Y.

Selling Agents:

Flexideal Dry Mat Company - 21 West Street, New York
Stahl Newspaper Supply Company, Inc., - - Los Angeles
Russell Products Company, - 810 Sansom Street, Philadelphia
American Publishers Supply - - - West Lynn, Mass.
Toronto Type Foundry Company, Ltd. - - Toronto, Canada

The Metal Service You've Always Wanted

6 MONTHS LATER



Imperial
METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

folded edge forward, and provides for the shortest possible color leads.

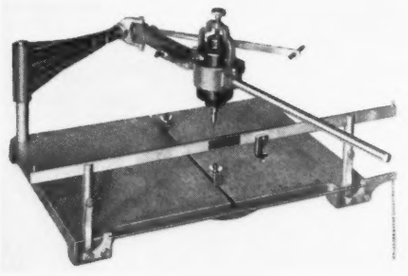
TIMKEN BEARINGS USED

In addition to the use of Timken Preloaded Tapered Roller Bearings on the plate and impression cylinders mentioned in the description of the Goss Unitube Press, the Timken Roller Bearing Company states that roller bearings are used on the drive and idler gears. All play in the bearings is eliminated and no stagger marks can appear in the printing.

Router and Type-High Planer

The Dixon Router and Type-High Planer is furnished for use in printing plants to rout zinc and copper cuts or halftones, electrotypes and stereotypes, linotype slugs and foundry type, wood, linoleum and rubber.

The 25 in. by 18 in. cast-iron ribbed bed surface is machined. The adjustable workholder holds cuts of any size to limits of bed capacity. Cuts or plates are held by clamps sliding in T-slot in the bed. The heavy-duty fan-cooled, constant duty, 110 v. universal motor can be used on a.c. or d.c. current. The routing spindle has a double row of ball



New Dixon Router, bed size 25 in. by 18 in.

bearings at top and bottom. Spindle speed is 20,000 r.p.m. A slight turn of the collar tightens router bits in the hardened tool steel balanced motor chuck.

In operation, a foot stirrup (not illustrated) raises the front bar to clear the routing bit from the work. A knurled hand wheel on the top of the motor frame raises the motor or lowers it to any desired depth. Type-high planing and routing of small cuts may be done when the arm is clamped in a fixture provided for the purpose on the front bar.

All steel parts are cadmium plated to prevent rusting and all iron parts are lacquered. An overhead light illuminates area over which the work is being done.

Further information may be obtained from Automatic Saw Sharpening Company in care of *Printing* EQUIPMENT *Engineer.*

Norton Molding Blanket

George M. Norton, a practical newspaper stereotyping executive, announces a rubber composition stereotype molding blanket. The blanket, it is claimed, is constructed in such manner as to give necessary molding depth and sharpness of printing surface without extreme depth in the open spaces so as to minimize mat packing, hence a shallow-molded mat eliminates kinks and buckles. In a recent test a blanket has been subjected to 3000 moldings and is still in very serviceable condition.

A peculiar feature of this blanket, said Mr. Norton, is that it will give the desired amount of shrinkage without the usual 12% moisture content in dry mats. In other words, a mat with moisture content which ordinarily will give 3/16 in. shrinkage will shrink to give 7/16 in. white margin for an eight column paper.

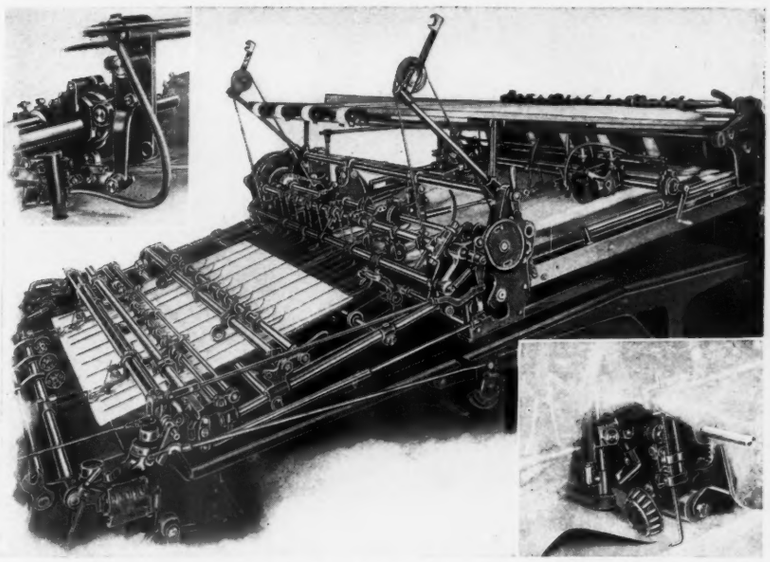
Further information may be obtained by addressing George M. Norton in care of *Printing* EQUIPMENT *Engineer.*

New Development For Feeders

As the result of eight years engineering work, Dexter announces what is called a "revolutionary" development in Cross Continuous Feeders. Suction sheet separation has been applied to the basic continuous feeding principle which has been incorporated in cross-feeder design for forty years.

It is said all advantages of the Cross Continuous Feeder have been retained which, in combination with suction feeding, greatly increases the adaptability of this feeder to present-day trends.

Suction feeding principles are used in separating and forwarding the sheets. The pump mechanism is a compact unit and is attached to the rear off-side base of the press. In this position it is readily accessible, yet it requires no additional floor space. The separator mechanism has been designed for simplicity and certain operation. Regulation of separator height to paper-bank height is controlled automatically. The maker claims positive separation is secured by use of an exclusive mechanism which holds the second sheet firmly while the top sheet is being separated.



View of Dexter Suction Cross Feeder. Suction sheet separation has been applied to the basic continuous feeding principle. Insets show sheet separating and forwarding unit details.

The forwarding mechanism, also a suction device, retains the cross features of squaring up and stopping the sheet before it leaves the bank to give greater leeway on poorly jogged stock. This insures register at the drop guides.

It is claimed that application of suction feeding has eliminated the need for combing wheels over the center of the sheet. This also obviates any necessity for margins and prevents sheet-marking on printed surfaces. It is also stated that the greatest degree of sheet-feeding efficiency is provided in the Cross Continuous Suction Feeder on all classes of printing, lithography and folding work.

Complete information may be obtained by addressing the Dexter Folder Company in care of *Printing* EQUIPMENT *Engineer.*

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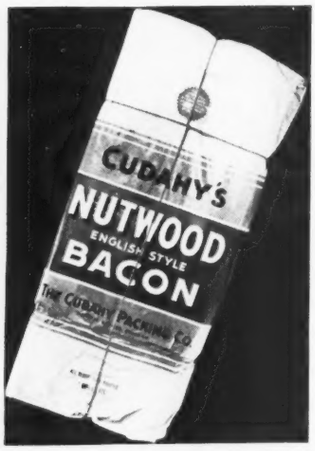


The solid colors on this bacon wrap are red, blue and black. Printed by Kalamazoo Vegetable Parchment Co., for Cudahy Packing Company. . .

NUTWOOD BACON WRAPS

are printed on "3-Point" Presses

. . you, too, can

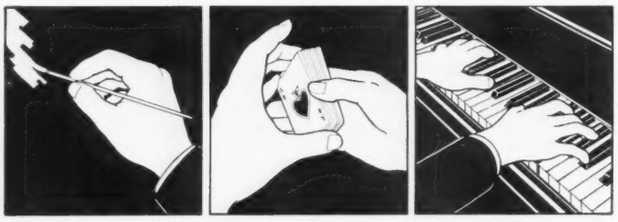
get CONTROL OVER THE PAPER

with Kidder Engineering

No need to hold the horses when turning out wrappers like the above on Kidder "Three-Point" Presses.

Cudahy bacon wraps are printed on a type of Kidder Press which feeds from a roll, cuts sheets to the desired length, prints up to six colors and delivers 5000 to 8000 sheets an hour.

For more facts on this and other Kidder presses, address the engineering department at Dover, New Hampshire, or call our nearest branch office.



Proper distribution of ink . . . Control over the paper . . . Accuracy of the impression

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PRINTING MACHINERY

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One and Two-Sheet Rotaries . . . All Size Adjustables . . . Automatic Bed and Platen Presses . . . Golden Arrow Straight-Line Bronzer . . . Multi-Color Web Presses . . . Slitters and Rewinders . . . Chapman Electric Neutralizer . . . Special Printing Machinery of All Kinds. 971

Patent Papers:

Printed copies of Patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C., and enclose 10 cents for each patent paper wanted.

Feeding

And Folding Patents Quite Strong

MARCH-APRIL, 1935

Bookbinding:

1,994,613. SHEET-HANDLING DEVICE IN BOOK-STITCHING MACHINES. Oscar Kleinschmit and Rudolf Klemm, Leipzig-Plagwitz, Germany, assignors to Gebruder Brehmer, Leipzig-Plagwitz, Germany, a limited partnership of Germany. Application January 26, 1932. Serial No. 589,012. In Germany February 11, 1931. 28 Claims. (Cl. 112 — 21.)

1. In a book-stitching machine of the swinging sheet-carrier type, a sheet retaining device, means for engaging the device with a folded sheet placed straddlewise upon the sheet carrier, a rotatable friction roll adapted to engage the sheet and means for rotating the roll whereby the fold of the sheet is drawn down upon the apex of the sheet-carrier.

1,995,596. BOOKBINDING. David H. Adamson, Cranston, R. I. Application July 17, 1934. Serial No. 735,585. 4 Claims. (Cl. 281 — 23.)

1. In a flat opening book, two cover boards, a stack provided with a series of transversely disposed aligned marginal slots, a flexible strip engageable with one side of the stack and fixed to one board, a strip engageable with the other side of the stack fixed to the second board and provided with slots registering with the first slots, and a plurality of interspaced guide fingers integral with the first strip transversing both the first and second slots and terminating in folds overlapping the second strip.

1,995,754. PRESSER PLATE FOR BOOK STITCHING MACHINES. Carl Schramm, North Coventry, Conn., assignor to The Smyth Manufacturing Company, Hartford, Conn., a corporation of Connecticut. Application February 13, 1934. Serial No. 711,058. 6 Claims. (Cl. 112 — 252.)

6. A presser plate for book-stitching machines which comprises two independent but complementary sections of substantially equal area and thickness separable with relation to each other in the same horizontal plane, one section having hook perforations and the other section having needle guiding slots and attached thread cutters.

Composing Machinery:

1,995,558. MEANS FOR FEEDING METAL TO THE METAL POTS OF TYPOGRAPHICAL CASTING MACHINES. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application June 9, 1934. Serial No. 729,729. In Germany September 12, 1933. 6 Claims. (Cl. 22 — 80.)

1. In a typographical casting machine, mechanism for feeding metal ingots provided with teeth to a metal pot movable to and from casting position comprising in combination a substantially vertical guide for the ingot, a rotary member adapted to be engaged by the teeth on the ingot, an abutment normally locking the member against its tendency to rotate under the weight of the ingot and adapted to be withdrawn from and returned to the locking position through movement of the metal pot, and open bearings for the rotary member permitting the member to be removed with the ingot when the latter is withdrawn upwardly from the guide.

1,996,081. LINECASTING AND COMPOSING MACHINE. Louis M. Potts, Evanston, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware. Original application January 2, 1932. Serial No. 584,387. Divided and this application April 13, 1934. Serial No. 720,409. 19 Claims. (Cl. 199 — 18.)

1. The combination of a plurality of function performing weights, a corresponding plurality of selectable bars each having individual control of one of the weights for conditioning it for operation, a set of code bars, sensing means responsive to certain conditions in a tape for accordingly arranging the code bars, the selectable bars being individually responsive to each arrangement of the code bars, means for unitary actuation of each of the weights after it has been conditioned by the selectable bars, and means for repeated actuation of certain of the weights after it has been conditioned by the selectable bars.

1,996,712. ILLUMINATING MEANS FOR MATRIX REFERENCE CHARACTERS. Ransom H. Turner, Little Neck, N. Y., and Le Roy W. Willis, Stamford, Conn., assignors to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application July 6, 1934. Serial No. 734,024. In Germany April 4, 1934. 10 Claims. (Cl. 240 — 2.)

1. In or for a typographical composing machine having an assembler for lines of elements bearing type characters on one edge and reference characters corresponding therewith on another edge thereof, a source of light for illuminating the reference character bearing edges of the elements, light directing means comprising a reflecting surface below the level of the reference characters on the elements and positioned relatively to the elements in the assembler to receive light from the source and reflect a portion of such light in a defined beam and thereby concentrate the illumination from the source only on the reference characters on the elements.

1,997,346. LINOTYPE AND INTERTYPE MAGAZINE STORAGE CABINET AND A RAIL UNIT PROVIDED THEREIN. Archie B. Reid, Chicago, Ill. Application May 14, 1934. Serial No. 725,497. 4 Claims. (Cl. 276 — 44.)

1. In a storage cabinet for type magazines, a plurality of removable rail units, each comprising a channelled body member having a continuous movable belt extending substantially the length thereof to receive a type magazine and carry it in frictional engagement therewith into the storage cabinet, and means for removably mounting each of the rail units in the storage cabinet.

1,997,435. MATRIX BAND. Julius Schneider, Munich, Germany. Application June 30, 1931. Serial No. 547,830. In Germany July 18, 1928. 3 Claims. (Cl. 101 — 401.6.)

1. The herein described method of forming and justifying printing matrix bands, which comprises forming spaced groups of impressions on a band of inelastic non-rigid material, providing incisions therein marking the beginning and end of a line, respectively, bending the portions of the band between spaced groups of impressions outwardly beyond the normal plane of the band to bring the parts of the band carrying the impressions more closely towards one another, thereafter causing the band to travel, engaging the band at an incision marking a line end, while the remaining part of the band continues to travel, whereby the bent parts of the band are more or less flattened and the groups of impressions are spaced apart, and engaging the moving band at an incision marking the other line end, when the band has attained the length of a line of type.

1,997,552. LINE CASTING MACHINE. Samuel E. Sperry, Hollis, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application November 14, 1933. Serial No. 697,979. 9 Claims. (Cl. 199 — 50.)

1. In a line casting machine having a matrix line receiving vise embodying jaws at least one of which is movable from matrix line receiving position toward the other jaw to close against matrix lines, a matrix line transporter and means cooperative with the transporter to cause it to present matrix lines between the vise jaws at relatively different alinement levels, means for retaining the movable jaw in line receiving position and control means therefor independent of the transporter and adjustable to cause the movable jaw to be released automatically when the transporter reaches one or another alinement level.

1,997,555. MAGAZINE MOUNTING FOR TYPOGRAPHICAL MACHINES. Le Roy W. Willis, Stamford, Conn., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application June 28, 1934. Serial No. 732,897. In Germany August 15, 1933. 10 Claims. (Cl. 199 — 46.)

1. A typographical machine having a main frame, matrix assembling means and a magazine supporting frame comprising upper and lower contiguous sections constituting means for supporting upper and lower magazine sections and pivoted on the main frame substantially centrally of its length to tilt rearwardly for removal of the upper matrix magazine section therefrom, means for tilting the lower section of the frame through which the shank laminations are separately introducible, the core being introducible along with the shank laminations and effective to establish driving fit thereof with respect to the tip.

Feeding and Folding:

1,994,665. WEB FEEDING MECHANISM FOR BAG MACHINES. George W. Poppe, Brooklyn, N. Y., assignor to Equitable Paper Bag Co., Inc., Brooklyn, N. Y., a corporation of New York. Original application September 30, 1932. Serial No. 635,533. Divided and this application June 21, 1933. Serial No. 676,871. 3 Claims. (Cl. 93 — 18.)

1. In a bag machine the combination with the former about which a web of paper is wrapped to form a bag tube and feed rollers for engaging the tube, of a roller about which the web of paper passes prior to being folded into a tube, means for driving the roller and means for rendering the drive ineffective at will.

1,994,666. PASTE-APPLYING MECHANISM FOR BAG MACHINES. George W. Poppe, Brooklyn, N. Y., assignor to Equitable Paper Bag Co., Inc., Brooklyn, N. Y., a corporation of New York. Original application September 30, 1932. Serial No. 635,533. Divided and this application June 21, 1933. Serial No. 676,874. 2 Claims. (Cl. 93 — 18.)

1. In a bag machine the combination with bag tube forming mechanism and means for feeding a web of paper to the mechanism, of a paste-applying disc, a shaft upon which the disc is mounted, a second shaft, means for driving the same and a separable connection between the disc shaft and the second shaft.

1,994,652. SHEET MAGAZINE FOR PRINTING PRESSES. Abel Kluge and Eneval Kluge, St. Paul, Minn., assignors to Brandtjen and Kluge, Inc., St. Paul, Minn., a corporation of Minnesota. Application March 27, 1933. Serial No. 662,892. 14 Claims. (Cl. 271 — 61.)

1. In a device, a post mounted to turn on its own axis, a bed-plate for sheets mounted at one end on the post, a supporting leg for the bed-plate depending therefrom at its end opposite the post, the leg being formed with a shoe having a slot there-through, a latch lever disposed in the slot and pivoted to the shoe, the ends of the lever projecting from the shoe, one of the projecting ends of the lever having a notch formed therein, a latch block providing a rest for the shoe in one of the positions in which the bed-plate may be swung, a latch pin mounted on the latch block and adapted to be caught in the notch in the latch lever, the projecting end of the lever opposite the notched end thereof serving as a hand hold for releasing the latch lever from the latch pin and as a medium for swinging the bed-plate and counterbalancing the weight and of its contents in positions of the bed-plate in which it is unsupported by the latch block.

1,995,269. METHOD AND MEANS FOR RENEWING WEBS OF PRINTING MACHINES. John R. Tomlin, Brooklyn, and Arvid Lundquist, New York, N. Y., assignors to Irving Trust Company, permanent trustee of R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 1, 1931. Serial No. 578,270. 41 Claims. (Cl. 242 — 58.)

1. Means for confining the free end of a web roll to the body portion while rotating which comprises strip material pasted adjacent an edge of the free end so as to overlap an end of the body portion and anchored at the end to a member rotated with the web roll.

32. The method of confining the free end of the web of a web roll to the body portion while rotating, which consists in arranging a tab in helical fashion on the free end of a web roll so as to provide portions overlapping side margins of the web roll and exert a forward pull on the free end tending to confine the free end to the body portion, and then securing the overlapping portions by means arranged at the end of the web rolls.

1,995,563. PLATEN PRINTING PRESS. Artur Buttner, Heidelberg, Germany, assignor to Schnellpressenfabrik Aktiengesellschaft Heidelberg, Heidelberg, Germany. Application February 8, 1933. Serial No. 655,842. In Germany February 16, 1932. 2 Claims. (Cl. 271 — 5.)

1. In a platen printing press, in combination with means for the automatic feeding and delivery of the sheets, suckers adapted for feeding the sheets, a gearing for lifting the feed pile, a feeler adapted to touch the upper sheet of the feed pile and to act upon the gearing for lifting the feed pile; means for moving the suckers and the feeler simultaneously up and down, means for tipping the suckers when feeding the sheet, a manually operable stationary lever for adjusting the moving tipping means, and a scale having indicia so arranged relatively to the lever as to facilitate adjustment; a second manually operable stationary lever for adjusting the position of the moving feeler and a scale having indicia so arranged relatively to the second lever as to facilitate adjustment.

1,995,631. SHEET FEEDING APPARATUS. Albert Broadmeyer, Harrisburg, Pa., assignor to W. O. Hickok Manufacturing Company, Harrisburg, Pa., a corporation of Pennsylvania. Original application June 15, 1931. Serial No. 544,582. Divided and this application March 25, 1932. Serial No. 601,236. 10 Claims. (Cl. 271 — 62.)

1. In feeding apparatus, the combination with a movable sheet starting device for initially starting the sheet from an assemblage of sheets, of means for continuously moving the device, means for periodically making the device active to act upon a sheet and initially move it, mechanism for automatically presenting sheets to the delivering device to be delivered thereby and including a governing means having a feeler that rests on the sheets thereby presented, means for moving the feeler away from the sheets when the delivering device acts upon a sheet to prevent the feeler interfering with the action of the delivering device on the sheet delivered thereby, and a common controller for the periodically acting means and the feeler moving means.

1,996,277. SHEET SEPARATING COMBING WHEEL. Frank L. Cross, Port Washington, N. Y., assignor to Cross Paper Feeder Company, Boston, Mass., a corporation of Massachusetts. Application February 15, 1934. Serial No. 711,329. 11 Claims. (Cl. 271 — 37.)

1. In a sheet separating combing mechanism, the combination with a rotary sheet combing element, of means for moving the element into and out of engagement with sheets to be separated, and means for simultaneously imparting related motions of translation and backward rotation to the combing element.

1,996,981. SHEET DELIVERY MECHANISM OF PRINTING MACHINES. Fred Spence, Sale, England, assignor to Linotype and Machinery Limited, London, England, a limited-liability company. Application February 23, 1932. Serial No. 594,518. In Great Britain March 6, 1931. 4 Claims. (Cl. 271 — 84.)

1. In sheet delivery mechanism for printing machines the combination with a series of endless tapes adapted to receive printed sheets on its upper flights and means adapted to move the upper flights intermittently in a substantially horizontal plane, periods of onward movement always at the same speed alternating with periods of rest of equivalent duration, of a reciprocating carriage having sticks adapted to receive printed sheets conveyed thereto by the intermittent movement of the tapes, a system of pipes adapted to deliver air on to the sheets carried by the upper flights of the tapes and the sticks and means adapted to control automatically the air supply appropriate to the stick-supported sheets whereby the air supply is cut off during the movement of those sticks in one direction and is reinstated during the movement of the sticks in the reverse direction.

NOT SO LONG AGO
-THE WINDS OF CHANCE DETERMINED THE LENGTH OF ANY VOYAGE
I WONDER IF THIS ONE'S ANY GOOD
HUMMERSTONE
NOT SO LONG AGO CHANCE DETERMINED THE UNIFORMITY OF A SHEET OF ZINC

NOT so long ago, the uniformity of engravers' metal was a very uncertain proposition at best. Many plates consumed unnecessary time and acid in etching. Many engravings were ruined by hidden defects.

Today, wise engravers are saving time and labor and are assuring results by choosing A-Z Alloy and Zomo Electric Zinc, metals of proved uniformity. These metals have quality cast right into them by the electric induction process. Zomo Electric Zinc, the all-purpose metal; A-Z Alloy for long runs and heavy mat work.

Order both these metals from any of the following: Rolled Plate Metal Co., National Steel & Copper Plate Co., Pacific Steel & Copper Plate Co., C. G. Hussey & Co., Bridgeport Engravers' Supply Co., American Steel & Copper Plate Co., W. E. Booth Co., Ltd., Canada; Hunter Penrose, Ltd., England.

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A-Z ELECTRIC ALLOY

STEREOTYPERS

A perfect newspaper stereotype plate has never yet been made. You can come nearer to the perfect plate by using the

NORTON RUBBER MOULDING BLANKET

and also save yourself a lot of unnecessary work and worry.

This rubber moulding blanket perfected by a stereotyper with over thirty years' experience in conjunction with the largest rubber company in the U.S. *eliminates* mat buckles and kinks completely, the necessity for building solids and half-tones above type high, and bolstering the open spaces to keep the mat from driving in too deep.

A heavier mat with less moisture can be used. Half-tones reproduce as perfect as the original plate. Linotype blank slug ends and edges do not score and weaken the mat.

Write for other advantages or order from

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New Linotype Faces

Memphis Bold with Italic and Memphis Light with Italic are now available in the 8, 10, 12 and 14-point sizes, announces the Mergenthaler Linotype Company.

Other recent Linotype typographic developments include the cutting of Lining Metro and Lining Memphis in two weights in three sizes of 6 point and four sizes of 12 point; 16-point Bodoni; 14-point Bodoni Bold One-Letter Small Caps, and 30-point Poster Bodoni Advertising Figures punched in the regular position for the casting of two-line figures on 12-point bodies from advertising figure molds. And 42-point Erbar Bold Condensed may now be had to cast on a 36-point body from regular display molds.

How is one to assess a
How is one to assess a
14-point Memphis Light with Italic

How is one to assess a
How is one to assess a
14-point Memphis Bold with Italic

Among the faces recently cut for the All-Purpose Linotype are 96 and 120-point Cheltenham Bold Extra Condensed.

Pyrometers

(Continued from page 14)

To give best results, mats should be heated to about the same temperature as the casting box when the metal is poured.

Even though the mat scorcher may be equipped with "low," "medium" and "high" buttons, a small pyrometer on each will be a profitable investment in assuring the operator that the scorcher is neither too hot nor too cold. See Fig. 1.

STEREOTYPE METAL

The standard metal commonly used for good stereotype plates consists of about 80 parts lead, 6 parts tin, and 14 parts antimony with a casting temperature of 600 deg. F.

The cheaper grades of stereotype metal contain little or no tin. This composition fuses at about 625 deg. F., and the casting temperature may be as high as 640 deg. F to 650 deg. F. For newspaper plates the formula varies somewhat, sometimes with a little more tin and less antimony.

While these are the proportions usually given for good plates, the actual proportions used in different stereotype rooms varies greatly, depending upon the care with which the metal is watched in remelting and drossage.

Every remelting of the plates changes the composition in some slight degree and as a result casting temperatures will vary considerably due to the difference in metal composition. In some cases this may be as low as 550 deg. F., although this is a rare condition, while the temperature may go as high as 650 deg. F. Most alloys, however, require a temperature of 600 deg. to 625 deg. F.

EFFECT OF TOO HIGH OR TOO LOW TEMPERATURE

The tin in printing metals which melts at a temperature lower than either lead or antimony will burn out if the metal is maintained at too hot a temperature and the metal will not flow freely in casting.

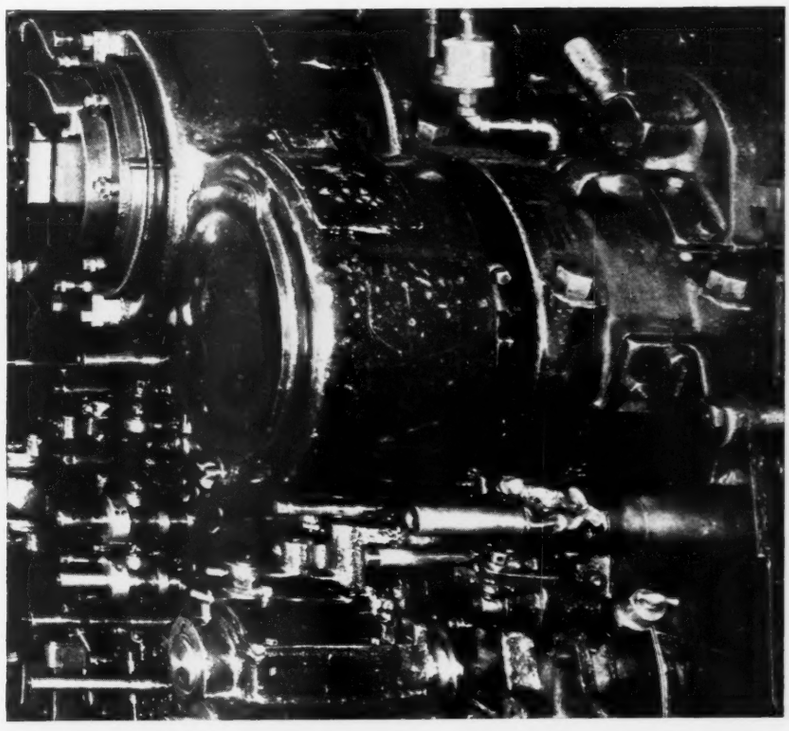
For stereotype work some of the larger printing plants use stereotype furnaces equipped with automatic temperature control. However, many of the smaller daily and semi-weekly newspaper mechanical executives are still guessing or

Newspaper Presses

GET MORE SPEED

With SKF Bearings

● SKF makes practically *all types of anti-friction bearings.* When SKF recommends a particular type of bearing, therefore, you may depend upon it; its recommendations are *unbiased!*



SKF-EQUIPPED BUILT BY WOOD NEWSPAPER MACH'Y. CORP.

FROM 40,000 to 65,000 thirty-two page papers an hour . . . that's SPEED in printing language the world over! And it's the speed developed by this Wood Press that rolls on *three-quarters of a ton of* SKF *Bearings.*

SKF Ball and Roller Bearings mean lower starting torque, quicker pick-up and closer adjustments on the drag, nipping, folding and leading-in rollers . . . folding and cutting cylinders . . . drive pin and folding blade shafts . . . on *all* intermediate gears.

So printers with their keen insight into values and their cold calculating consideration of PERFORMANCE appreciate, perhaps as few others can, that SKF puts the RIGHT BEARING in the Right Place.

SKF

BALL AND ROLLER BEARINGS 3426

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

SPEED
Electric
Scorchers

End Your Mat Troubles

Model 43-SP-4

Install a 43-SP-4 model Speed Electric Scorcher and get perfect mat drying and forming. This is the scorcher with the floating cover plus many other important features.

Write for further description and prices on all curved and flat models. Special sizes made to order at reasonable prices.

Speed Products, Inc.
437 EAST 106th STREET CLEVELAND, OHIO

Kork-O-Tan
REG. U. S. PAT. OFF.
BOTTOM PRESS BLANKETS

QUALITY

Resilient—yet firm
Tough—yet pliable
Oil-resistant
Stretchless
Even Gauge throughout

Low First Cost—Long Life

ECONOMY

BEHR-MANNING *Established 1872* TROY, N. Y.

using the obsolete method of trying to tell the temperature by the paper test. This lack of pyrometer equipment is due largely to the belief that a big investment must be made to get a reliable instrument.

For most installations, one of the Heavy-Duty Wall-Type Pyrometers, range 0-1000 deg. F., with flexible metal extension cable and an enclosed quick-acting right-angle thermo-couple, is recommended.

ELECTROTYPING

After the copper shell of the electrotype is made, it is backed up with metal underneath the shell. The backing process is important to electrotyping. It is essential that the shell be clean and that good foil be used, that this covers every part of the shell, and that the backing metal be kept at an even temperature.

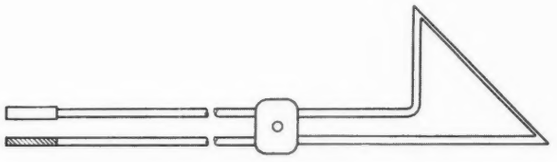


Fig. 4.—Diagram showing special surface type of thermo-couple element which is used with "Alnor" Portable Pyro Prod for determining metal pot mouthpiece temperatures on Linotypes and Intertypes. When it is desired to test the temperature of a mouthpiece this thermo-couple is substituted for the immersion thermo-couple element shown attached to the Pyrometer in Fig. 3.

Good electrotype metal is made of 92½% lead, 3½% antimony, and 4% tin. This is the formula approved by the I. A. E. standardization committee. The best pouring temperature is between 600 deg. F. and 650 deg. F., although it may run slightly higher in some cases without harmful results.

However, if the temperature runs as high as 700 deg. F. or above, there is danger of burning out the tin.

Should metal be poured that lacks tin, it will result in taking up the tin from the foil, and the backing metal will not adhere to the copper shell. Air spaces between the shell and backing metal will cause the copper printing face of the electrotype to "cave in" on the press and spoil the printing. If the metal is too cold, it will not flow into the shell properly and imperfect plates will be cast.

For electrotype furnaces, a wall-mounted pyrometer with either straight or angle tube is recommended. For most installations, the angle tube is more desirable.

REMELTING

In most of the larger printing plants, the discarded slugs, leads and type are remelted into bars or pigs. The furnace used is somewhat like a small stereotype pot, and the same kind of pyrometer installation is recommended as that used for stereotype service.

Replies

(Continued from page 10)

geared for 60,000 papers per hour could be operated more economically with an a.c. drive at all speeds above approximately 39,000 papers per hour, etc. This statement verifies the point just made by the writer, that they do not get the speed range with alternating current and you do not get the economical operation at less than full speed on alternating current than you do with direct. Any electrical engineer will bear out these statements.

At this point the writer wants to repeat that the alternating current drive will be just as economical as far as power

is concerned, if we are operating a press made to run at 60,000 papers per hour at that speed, but if we gear the motor drive to run at that speed and run it at 50,000 papers per hour, there will be considerable power wasted in the resistance that dissipates the electrical energy in heat in the alternating current equipment, and approximately the same amount of current will be drawn from the line as if you were running the alternating current motors at full speed. The direct current equipment power will be reduced proportionately when the direct current motor is operating the press at 50,000 papers per hour. The same remarks apply if you were running the press geared to a maximum speed of 60,000 papers per hour at 40,000 papers per hour, but as you get down to lower speeds, say 30,000 an hour, you would be unable to keep the alternating current equipment running steadily at that speed, whereas the direct current would continue to run at that speed and deliver its power economically and steadily without variation due to variation in load, and without resistance dissipating in heart, part of the power that is going through the meter.

It is on account of just this condition that we have refused to gear alternating current equipment to presses to run a press at 60,000 an hour or at 50,000 an hour. We refused to do this in three large plants and each time lost the order. In each plant the gearing was later changed to reduce the speed at which the press could run, and we believe in two cases this reduction was made twice, that is, from 60,000 down to 50,000 and again to a lower speed. It may be true there were reasons why the press could not run at 60,000 per hour other than the motor drive. We contend, and it is also true, that they could not have run at that speed with the motor drives and obtained sufficient lower speed, for as every practical printer knows, you do not run a press at maximum speed all the time, whether the maximum speed be rated 60,000, 50,000 or 40,000. Conditions vary depending on the number of units, condition of paper, atmospheric changes, type of plate, condition of braking devices, and several others, not the least of which is the opinion of the man who runs the press. These conditions will cause the press to be operated at 24,000 to 36,000 papers per hour for days at a time, and then the operator may want to change to 45,000 or take spurts and run to 50,000 an hour, and he does not want to have to worry about his motor equipment to do this. It is for the reasons just cited that we have recommended direct current for high-speed presses. That we have been justified is proved by the fact that we have put these equipments in many plants and have given the publishers what is necessary for their presses without the pressmen, electricians, and others having to work and worry about the motor equipment.

It may be argued that we have installed direct current in some plants where the press is not rated or is not expected to run over 40,000 papers per hour at the present time. We have taken the press unit combinations into consideration. We feel, also, that if later plate conditions permit, there is a probability of the publisher wanting to increase the speed of these presses. All press manufacturers now agree that their presses will run at higher speeds if other conditions permit, therefore, it is not good business to sell equipment that limits the press speed.

From the standpoint of economy, considering just the amount of power used by the alternating or direct current motor, there is no question but what the direct current motor is the most economical to use. If converting equipment is necessary, it may be the interest on the investment and the loss in the conversion equipment will balance the efficiency of the direct current motor for the general printing conditions, but in many cases this has been considered by the publisher

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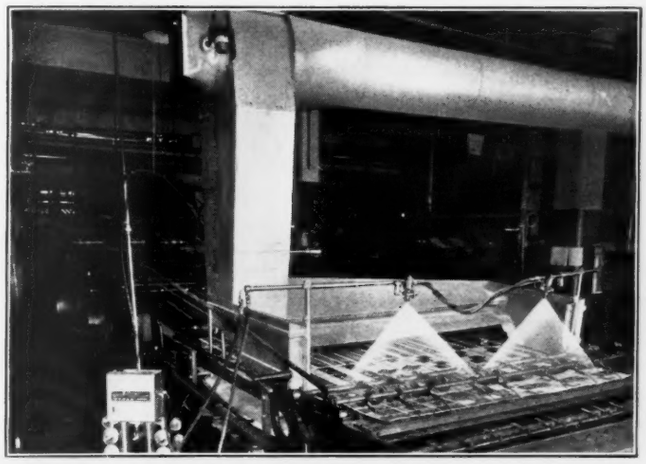

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who prefers to have press operation as near perfect as possble, and he overlooks the increased cost per page for electric current which, if figured out, will be astonishingly low.

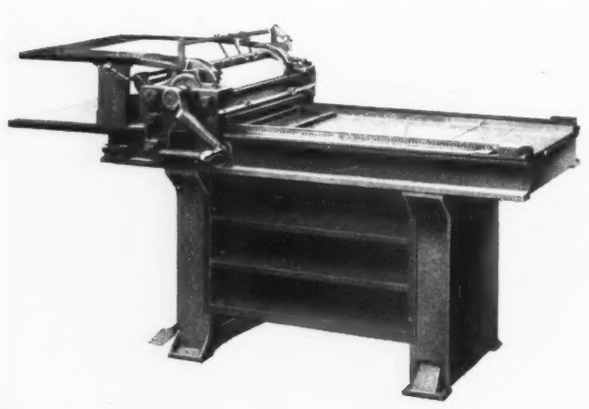
We have tried to bring out above the reason for furnishing direct current equipment for plants installing high-speed presses, and the principal limitations of the alternating current. There are other reasons such as dissipating the heat from the alternating current controllers which is no small item when you run into the larger alternating current motors necessary with the high-speed presses. The necessity of replacing the constantly burning contacts—which necessarily are large on alternating current controllers—is no small item in maintenance. This can be seen readily by a visit to any of the plants using such equipment. The acceleration and deceleration between the lowest speed of the alternating current main motor and the make-ready speed fixed by the small motor, will vary with the load, that is, the number of units connected to the particular folder that is driven by the motor; and regardless whether the press is geared to 60,000, 50,000 or 40,000, this condition will obtain. It is controlled somewhat by a so-called automatic governor, insofar as acceleration is concerned, after someone has adjusted the switches necessary for the particular setup of the press. With several presses in the room such setups are considerably involved, all of which is avoided by the use of direct current drives.

I have not touched on the unit type of drive which is being used in a number of plants, whereby each unit and each folder is provided with a motor of suitable size, and with an economical field control range from maximum speed down to one-fourth speed. Considering that the main line shaft is entirely eliminated, the load on each motor is just what is needed for each unit; it also acts as a brake when the unit is stopped, and it has been found to be the ideal drive for adjustable speeds and variable loads, but is only obtainable by use of direct current.

The conversion of alternating to direct current is being somewhat simplified by the use of mercury arc rectifiers. The first installation of such equipment is now being made by us for converting alternating current to 220 volts direct current. This will require less space than the rotary converters and less maintenance and will help to solve this conversion question for the publishers.

I think this statement can best be ended by reminding the publishers of the considerable development made in newspaper presses within the last three or four years. Not only has the speed of the presses entered into this, but rubber rollers and other factors have changed the power characteristics of the presses and it has only been by very careful analysis and cooperation with the press manufacturers that the power requirement could be met to take care of this change in the characteristics of the presses. The higher speed presses have now been developed and the publishers are not paying for them to run at low speed. During the transition at various plants the speeds are being felt out, but certainly the publishers will take advantage of the high speed and provide some way of accomplishing their purpose in buying the high-speed presses, and when this is done they will not want to be handicapped by some power cost consideration which is insignificant compared with the rest of the page cost.

The above remarks are addressed to the question of equipping modern high-speed newspaper presses. We do not mean that moderate speed presses cannot be operated with alternating current quite successfully. Considering a press with the maximum speed of 36,000 papers per hour, the reduction of speed on an alternating current drive would bring it down to nearer the threading speed, therefore a slower printing speed, say down to 24,000 or even 20,000



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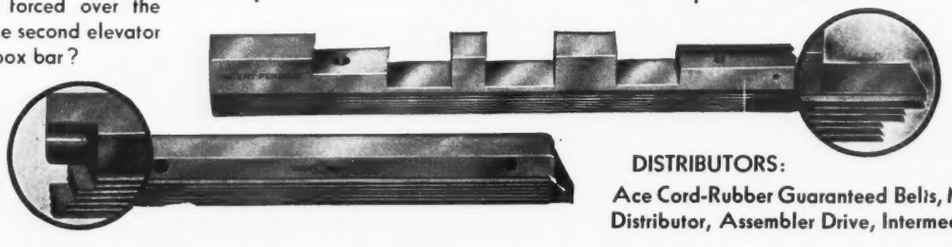

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could be obtained although not economically. In smaller plants which have short runs, the conversion equipment would not be advisable.

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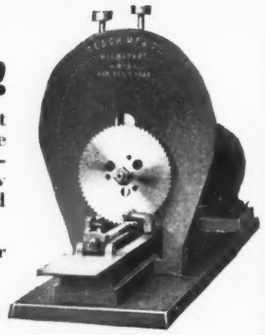

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Total	7002

Signed W. D. WILL
(Publisher)

Subscribed to and sworn before me on this 20th day of February 1935
(NOTARY'S SEAL) AVALON L. GRISWOLD, *Notary Public*
Commission Expires March 10, 1935

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